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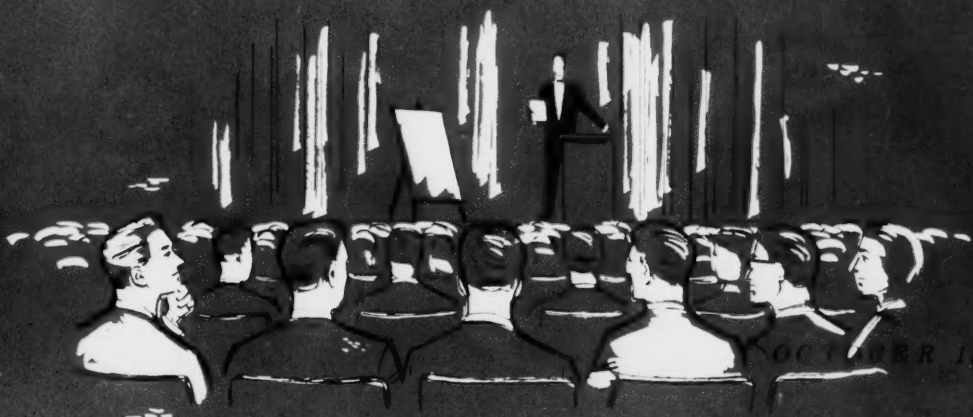
CONVENTION
REPORT
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THE NATIONAL PROVISIONER

AMI

Proceedings of the 51st annual meeting of the

AMERICAN MEAT INSTITUTE



OCTOBER 13, 1956

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News and Views

THE NATIONAL PROVISIONER

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OCTOBER 13, 1956

Looking Forward

Somehow, much of the past looks rosy at the golden wedding celebration, and the spirit of the occasion tints the future with a happy hue. Looking back, of course, on the occasion of the fiftieth anniversary of the beginning of meat industry cooperation through the American Meat Institute, one can recollect certain crises along the way, but these were triumphantly overcome or, at least, out-lived. Their like cannot come again—or can they?

Two and one-half or three wars, two depressions, several recessions and fairly continuous agricultural "adjustment" have characterized the past half-century. Meat consumption at the beginning of the period was at a high level never matched again until the beginning of the current decade. During the period the United States has been a net exporter, importer, exporter, importer and exporter of some of the meat industry's principal products. An "Edwardian" stability and simplicity in economic and social relationships marked the early 1900's, but this vanished for the meat industry prior to passage of the Meat Inspection Act of 1906, and for the American people and business in general as a result of two world wars, the income tax, the New Deal and the "bomb."

Over this period the distance and the personal gaps between food producer, processor and consumer have widened—and then narrowed through the media of radio, TV and self-service selling. The housewife of today has been taught more about meat, but she is also acquainted with thousands of other food and non-food items which compete hungrily for her dollars.

The past 50 years have been packed with change and, unfortunately for those who might wish to "settle down" a little more comfortably, the next half-century looks even more unstable. We do not believe that the coming 50 years, or even the next five, will be easy ones for the meat industry, in spite of the fact that a rapidly-expanding population, in an environment of increasing national production, should eat more and more and more meat. The industry must continue, as Dr. H. E. Robinson of Swift & Company named it at the AMI convention in the midst of "operation survival."

The possibilities of the next 50 years are, as convention speaker C. H. Moses pointed out, almost unimaginable, but the future will require from individuals and businesses the ultimate measure of adaptability and a demonstration that man is truly a "cooperative animal."

The Legislatures of Idaho and Utah will be asked in the coming sessions to appropriate \$80,000 each to provide adequate state meat inspection. Utah members of the Western States Meat Packers Association voted this week to seek that amount from their legislature to cover the entire cost of state meat inspection for the next two years. The Utah inspection law passed two years ago will become effective January 1. Idaho members of WSMPPA are campaigning for a new state meat inspection act, and have drawn up a proposed law to be introduced in the next legislature along with the request for an \$80,000 appropriation. Otto Florence of Twin Falls is chairman of a committee of packers appointed to secure passage of the bill.

NIMPA's First regional meeting of the 1956-57 year will be held Friday and Saturday, October 19 and 20, at the Belmont Plaza Hotel, New York City. Preceding this Eastern Division gathering will be a meeting of NIMPA's national board at the same hotel on Thursday, October 18. The regional meeting program will include concurrent Saturday morning sessions of interest to sales and accounting personnel. They will be conducted by Fred Sharpe, NIMPA's director of sales training, and Cletus P. Elsen, chairman of the NIMPA special cost accounting committee.

Agreement On a new three-year contract was reached this week by Wilson & Co., Inc., Chicago, and the two major packinghouse unions. The pact follows the wage increase and benefit pattern set in other recent agreements with national packers. Like Swift & Company, Wilson did not agree to a union shop, the United Packinghouse Workers and Amalgamated Meat Cutters and Butcher Workmen disclosed. The Armour and Company contract provides a modified union shop. The Wilson agreement calls for a 10c-an-hour wage increase, retroactive to September 24, and 7½c increases on September 1, 1957, and September 1, 1958. Geo. A. Hormel & Co., Austin, also has granted similar wage increases in a new three-year contract with UPWA Local 7.

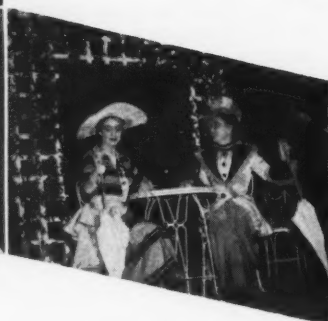
A 20-month contract has been signed in Canada by the United Packinghouse Workers and Canada Packers, Ltd., Toronto. The contract, which covers 5,000 workers in eight plants, involves an 18c package increase, with a 9c-an-hour general increase this year, 6c next year, night premiums and other benefits.

Selling Safety as it must be sold if accidents are to be prevented will be emphasized during the 44th National Safety Congress and Exposition, Monday through Friday, October 22-26, in Chicago. The latest safety devices designed to protect workers in the plant and on the road also will be on display. Many of the meetings, to be held at several hotels, will take up subjects of interest to packers. The meat packing, tanning and leather products section of the National Safety Council will meet at 2 p.m. Monday in the Congress Hotel and again on Tuesday at the Congress for a 12:30 p.m. luncheon and program.

A Campaign to make Washington-fed beef "as famous as the Wenatchee apple" will be launched soon by the Washington State Meat Packers Association. The group voted at a meeting in Olympia to start such a program to popularize Washington beef. Next meeting of the association will be on Friday, October 19, in Othello.

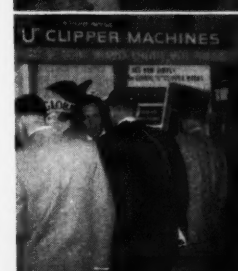


AMI Looks Toward Its Second Half Century



FORMING THE "50" are many of the packers, speakers and others who participated in the golden anniversary convention of the American Meat Institute, as well as the reincarnations of some of those who took part in the organization meeting of the AMPA. Thus, at the top of this page (center) we see bearded General Michael Ryan, first president, and George L. McCarthy, organizer and secretary, as they appeared in the skit re-enacting the Institute's formation. In the crook of the "5" is Arctic explorer Vilhjalmur Stefanson, 50-year battler in the cause of meat, as he received his AMI gold service pin at the annual banquet. In the downswEEP of the "5," beauty finds amusement in a convention photo of yesteryear, while Joe E. Brown jokes for the dinner guests. A highlight of the annual dinner—the Morrell chorus—forms the top of the "0" on page 75, and is flanked at the left by featured convention speakers C. Hamilton Moses and General Carlos P. Romulo. At the bottom of the "0," the Institute's great leader and planner, Thomas E. Wilson, rises to greet an old friend at one of the luncheons.





THE current strength and the universal usefulness of the tool they forged for the meat industry would undoubtedly have gratified General Ryan, George McCarthy and the other founders of the AMPA had they been able to mingle at the Palmer House with the 6,300 industry representatives who gathered for the AMI golden anniversary, September 28 to October 2.

There was evidence at every hand—in the lobby, the exhibit hall and in the meeting rooms—that the association has been, is, and will be a tremendous force for all kinds of progress in the meat industry.

This was attested in the talks of Dr. A. R. Miller of the MIB (page 76) and chairman J. M. Foster (191).

Management was offered new money-making and saving ideas in the accounting session discussions of J. R. Hinsey (page 131) and Timothy J. Sullivan (117); by William R. Rose (page 176) in his talk on machinery use and care, and in the appraisal of "the sausage revolution" by A. B. Maurer (page 112).

Packers were given a taste of bitter reality in the analysis of consumer views on pork by Elmo Roper (page 202) and could not have been made too happy over the doubtful status of fat as revealed in the discussions of Doctors Pollack and Stare and explorer Stefansson (page 206).

On the raw material (livestock) side, however, AMI marketing expert Ives predicted that volume should remain high in 1957 (page 107), and W. H. Bruner and Hilton Briggs gave encouraging reports on progress toward meaty hogs (page 99) and cattle (page 104).

Presentations by Dr. H. E. Robinson (page 135), Dr. D. M. Doty (174) and Dr. J. B. Evans (172) stressed the "survival value" of research to the meat industry, and told some of the ways in which science is being used to give meat longer life and to gauge beef quality.

Future trends in meat retailing, and some of the things that retailers find wrong with packers and themselves, were expounded by a panel (page 194).

The First Fifty Years



A HALF CENTURY of cooperation between the meat industry and the federal meat inspection service is reviewed by Dr. A. R. Miller, chief of the U. S. Department of Agriculture Meat Inspection Branch.

WE IN MEAT inspection are particularly happy to join with you in celebrating this 50th birthday of your Institute because this has special significance for us. We, too, have just reached the half century mark. The federal meat inspection program was organized 50 years ago under the law passed in 1906. We attach more than casual significance to this double birthday; we regard it as being symbolic of the mutuality of interest in and responsibility to a great industry.

The establishing 50 years ago of this Institute and the federal meat inspection program must be recognized as milestones in the normal development of an industry in which both the American farmer and the American consumer have a great stake. When I use the terms mutuality of interest and normal development, it is with the perspective that the passage of 50 years gives in viewing events that took place in 1906.

We can now pierce the curtain of high feeling and emotion which at that early date tended to obscure what has long come to be recognized, namely, that an effective official inspection program furnishes a servicing function that is essential to assure consumer acceptance of the industry's product, such consumer acceptance being necessary to developing the industry's maximum economic potential. The meat packing industry is on a sound basis and can look forward to a prosperous future only to the extent that the industry's products have the confidence of the consumer. This also exerts a profound effect on the livestock producer since it is the consumers' dollars that determine whether there will be an expanding, prosperous livestock industry or one of limited economy.

In sort of a public relations role, federal meat inspection plays an integral part in the U. S. livestock and meat business. If the program is to be understood, it must be thought of in this light rather than as being a policing action which applies restrictions unnecessarily to a business enterprise. Actually, inspection is part of the business enterprise and it contributes best to that enterprise when it functions effectively to assure that the industry's products confirm with consumer expectancy.

Inspection is, in fact, part of the production process in the slaughtering and manufacturing departments,

and it is part of the merchandising process when it controls product formulations and labeling. In these capacities inspection services industry best when the inspection program is provided with facilities that enable the inspector to function effectively and the program is adequately manned to staff the inspection positions. This accomplishes two purposes: it assures a good job being done for the consumer, and having sufficient inspectors operating with adequate plant facilities assures smooth integration of inspection routines. I have given some emphasis to this because it seems to me that when industry recognizes the role that inspection plays in a successful meat production and merchandising plan, we can then get down to a business-like approach to our mutual problems.

It's NOT FOR "Doc": We often hear the remarks, "Doc, I'll put this in for you," or "Doc, I'll fix this for you." While such expressions reflect a welcome and pleasant relationship between the packer and the inspector, they really do not accurately represent the objective of an inspection program. Requirements are not for the inspector's benefit. Of course, the inspector takes pride in being personally identified with a smooth running, clean operation in the plant where he is assigned. This is purely incidental, however, and



FOUR PEEPHOLES in the Institute safety exhibit prove irresistible to Tom, Dick, Harry, et al., so they take a look to see what it is that "could happen to you."

the real test is the need for the requirements to accomplish the objective of consumer protection. This is a primary interest and responsibility of the meat packer.

We all know that as a practical matter the important thing is that the packer provide the necessary facility whether he thinks he does it for the inspector or whether he recognizes it to be in his interest and to be his responsibility to do so. Human nature being what it is, I am sure the personal approach will succeed many times where other methods fail. The ideal combination is a personable inspector and a packer who willingly accepts his responsibilities under the law. The facilities requirements of the meat inspection program have come in for a lot of attention down through the years. By facilities, I mean those structural details of the packer's plant and the equipment and production layout in the plant that relate to sanitation and other inspection requirements.

It is understandable that when inspection was organized in 1906 the structural and equipment facilities of the plants then in operation presented real problems. Entirely new factors were injected into structural and equipment planning. Packinghouse engineering and operation previously had been concerned entirely with the mechanics of getting a job done economically. Then, because of the imposition of an inspection program, new routines had to be included in a traditional production pattern, and structural and operating facilities had to be provided to accommodate the change. In the very nature of things, change is always unpopular. This change, involving the locating of inspection positions in production lines and adjustment of production methods and equipment to assure sanitary handling of product, was not only unpopular but downright offensive.

A MAJOR UNDERTAKING: When the law passed in 1906 and the meat inspection program was organized, the requirements of the law had to be applied to a going industry. In fact, it was a large industry with highly developed meat packing centers located throughout the country. These centers were made up of meat plants which were built as large manufacturing enterprises. Their building and planning were concerned primarily with volume and economy of production.

Many of these plants were regularly operating at a higher than normal capacity. One of the things that received attention during the period that led up to the enactment of the meat inspection law was the kind and character of the plants in which meat was processed for human food. An important objective of the law and the meat inspection program organized thereunder was to bring about a change in these plants from what was primarily an industrial operation to a production system more in keeping with the preparation of food for human consumption.

Of course, a complete changeover was impossible during the few months intervening between the passage of the law and the setting up of the meat inspection program. Many changes were made immediately but in each case an arrangement was worked out whereby the inspection would be inaugurated with a plan for progressive improvements that would



INFORMATION on home study courses of the Institute of Meat Packing of the University of Chicago, which have been taken by thousands of industry employees, was furnished to conventioners by Shirley Dean and Mrs. E. A. Sutherland, with whom American Meat Institute vice president George Lewis is visiting.

bring the structural facilities of each plant and the equipment in line with the objectives of the law. As might be expected, each plant presented its individual problem.

The first objective was to keep the plant in operation with the inspection program integrated into the production line. It was a major undertaking to bring about adjustments involving only elementary principles of sanitation and to locate the inspectors so that the ante-mortem and post-mortem examinations could be made. We can hardly visualize the disturbing effect that applying the simplest and minimum inspection routines had on the production rate. It involved a major relations problem between the meat packing personnel and the meat inspection personnel. Every decision and every change made by the inspector was inevitably disruptive of production.

Those officials who were given the responsibility to organize the meat inspection program had no doubt of what was expected of them. The legislative history behind the enactment of the law was crystal clear. The officials also had several years of experience in administering an ineffective program under inadequate legislation. They knew that it was going to be difficult to integrate their inspection program into industry production lines, but they knew that it had to be done and they knew that the public was expecting and looking for an adequate meat inspection system. These officials could not let up in their efforts after they had inaugurated the inspection. They were faced with administering a program that must show continuing improvements until the full objectives of the law were attained.

CRITICISM DIED HARD: History shows that individuals continued to be critical of the American meat packer and the meat inspection program for a number of years following the passage of the law. As late as 1912 there was an investigation following allegations that meat packing plants in a certain area were operating improperly under a lax inspection system. The outcome of this investigation was favorable to the meat inspection program and the meat packers in-

volved. This was evidence that real progress had been made in adjusting the meat packing plants and organizing the meat inspection program along lines that were consistent with the objectives of the law.

There was a great deal of wood construction in meat packing plants in those early days. The meat packing plants, like all other industrial plants, used those structural materials that were most readily available and least expensive. Wood, therefore, was also extensively used in the construction of equipment on which the meat was handled during its various stages of preparation. It could easily be demonstrated that wood is not a suitable material for use in food handling operations. All of those reasons for objecting to wood, whether used in building construction or in equipment used for handling meats, are now recognized and accepted principles of meat hygiene, but in those days there was an understandable reluctance to make a change.

The change involved considerable capital expenditures; the suitability of substitute materials for the purpose was in many cases uncertain, and the change-over from wood to other materials presented production problems which the industry in many cases was unprepared to meet. Because of the long continued use of wood for certain meat packing operations, there was a strong conviction on the part of many meat packers that wood was the material best suited for the purpose. As time went by, really suitable materials were developed and identified for the various uses in meat packing plant construction and equipment. This resulted in a policy of continuing change in facilities requirements to keep them modern and take full advantage of such things as glazed tile, stainless steel, welded joints and the like.

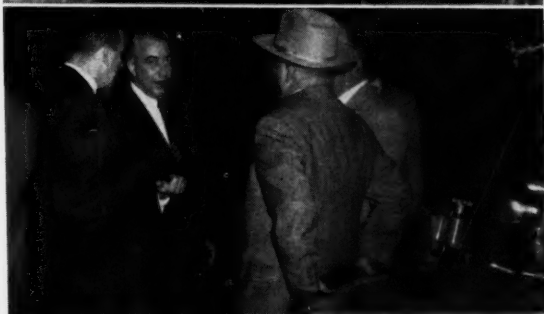
It is not surprising that the industry generally came to identify inspection with its structural and equipment requirements. There was an inclination on the part of the industry to feel that the inspection program had maybe gone too far in requiring glazed tile, stainless steel, pitched and drained floors, etc. We went through sort of a painful period which was educational both for the industry and the inspection organization. During this period, the inspection organization developed competency in applying its facilities requirements and the industry came to recognize that a properly constructed and equipped meat plant is also the best operating plant. A close and cooperative working relationship has developed between the industry's architects and production engineers and the meat inspection personnel who have the responsibility for developing and applying facilities requirements.

By contrast with the rather strained relations between the inspection organization and the industry some years ago on this subject of plant and equipment requirements, today it is generally recognized that both the industry and the inspection organization have the same objectives and the inspection organization is credited with making substantial contributions to the current strides being made by the industry in improving its structural and production facilities.

The first 50 years have brought about a complete change in the industry's attitude toward the facilities requirements of the meat inspection program. There has been a change from a feeling of tolerance or an-

THE EXHIBITS opened in a flurry of unpacking and assembly . . . played to a full house of packers and sausage manufacturers who watched, felt, tested and listened . . . rose to such climaxes as the





naming by John Milton of the AML of Arthur Lavin of Sugardale Provision Co. as the winner in the Ac'cent contest . . . and died away in a flurry of disassembly and packing.

tagonism to what we have today, which is a highly satisfactory working relationship between the industry and the inspection organization, characterized by mutuality of interest and frank exchange of information and ideas.

LABEL REVIEW: The labeling control provision of the law of 1906 is quite far-reaching. Under the law, the meat inspection program was called on to apply to a growing, highly competitive industry a system of controls that brought the inspector right into the most intimate details of the packer's merchandising plans and procedures. A great many labels for a wide variety of products were already in use. The problem of the inspection agency was two-fold, very much as was the problem involving facilities. The labels already in use had to be reviewed, and policies had to be developed that would apply the provisions of the law equitably to new labels. Labels already in use presented a difficult problem indeed. Many of them had an extensive and established use in trade, and the industry was understandably apprehensive of consumer reaction to any significant change in a label that had become well known and highly advertised.

During these early years label review concerned itself primarily with terms on labels that purported to refer to the quality of the product on which the label was used. For the most part these were the so-called extravagant terms we had heard so much about. Such terms as "best" and "supreme" came in for a lot of attention. Although it was recognized that the label review provision of the law had a much broader application, the label review office found itself pretty much occupied with extravagant terms. The influence that label review would later play in controlling the composition of a meat food product was somewhat of an abstraction in those early days.

Even when in 1918 the so-called "sausage case" was decided by the Supreme Court, the product manufacture routines in the inspected meat packing plant were considered to be more of an inspection control than a label control. The Supreme Court decided in that case that the Secretary of Agriculture had authority under the law to limit the amount of cereal to be permitted in sausage.

PRODUCT CONTROL: It was not until 20 years ago that the label review responsibility of the inspection program was applied more particularly to the composition of the product for which the label was intended. This came up in connection with merchandising practices that developed in the trade involving chili con carne with beans and corned beef hash. These products had become very popular and, as usually happens when there is good consumer acceptance, they became highly competitive. This highly competitive situation resulted in a gradual reduction of the meat used in preparing these products.

This development alarmed both the industry and the inspection organization. It was recognized that the label review responsibility of the inspection program had the potential of product control, and it was decided to use this approach in meeting and correcting the trend toward meat reaching the vanishing point in these two products. Studies were conducted directed toward ascertaining just what might be considered to be consumer expectancy concerning the

meat content of chili con carne with beans on the one hand and corned beef hash on the other.

The normal meat levels for the respective products were identified and a regulation was issued which stated, in effect, that products labeled chili con carne with beans shall contain not less than 25 per cent of meat computed on the weight of the fresh meat, and products labeled corned beef hash shall contain not less than 35 per cent of beef computed on the weight of the cooked and trimmed meat. These actions served a very good purpose. They assured to the consumer benefits contemplated by the Meat Inspection Act, and the industry benefited from the stabilizing effect of the regulation and renewed consumer confidence in its products.

MODERN LABELING POLICY: A little later congress enacted the Food and Drug Law of 1938, which gave



INSTITUTE staff members Eileen Hardy, Mary Lou Bos and Eleanore Gerhardt at the lobby information center of the Institute.

a good deal of attention to the kind of principles that were already being applied under the Meat Inspection Act, but which had not yet been fully worked out. About this time an entirely new labeling regulation was issued that identified a more complete labeling policy under the Meat Inspection Act, and that regulation is still being applied today. The new Food and Drug act included a provision for providing standards of identity for foods. This came about at a time when the meat inspection program had developed an awareness of its responsibility to control the composition of meat food products along the lines of its experience with chili con carne with beans and corned beef hash.

Today there are regulations covering a large number of meat food products, which control their formulation. These regulations are directed toward such things as setting minimum meat requirements, maximum moisture limitations and maximum limitations for other additives. This function of the inspection program has worked out quite well.

In this connection we might cite the line of frozen meat pies that has become so popular in recent years. Again, we have an item of excellent consumer acceptance. It is highly competitive. Frozen beef pie was the first item of this line that was introduced. When

the label for this product came in for review, the office identified a minimum beef content for the product. The label, as with all subsequent labels for frozen beef pie and the other frozen meat pies, has been approved with the requirement that the product will contain at least the minimum quantity of meat. Many merchandisers of these frozen meat pies have commented favorably on the stabilizing influence of the inspection requirements in the marketing of this commodity.

The first 50 years have brought us a long way from the early limited label control program that occupied itself with troublesome, extravagant terms, to our present day label review that assures the use by the industry of a label that is meaningful to the consumer and which identifies a product that uniformly meets consumer expectancy.

MARKETING INFORMATION: Even in the statistics field we have what we like to think of as being a proud accomplishment. Meat inspection statistics have long been recognized as a highly dependable source of marketing information. These statistics have always been available to the meat packing industry and have been widely used. In the past few years we have modernized our record-keeping system. This has enabled us incidentally to make available to the industry accurate production figures that are highly current.

Under our new system we are able to furnish the meat industry weekly production figures two weeks after the close of the reporting week. To the best of our knowledge this is the only industry which has U.S. total production figures as currently as that. For example, canned vegetables are reported only at the end of the season. Apparently the lumber industry never is able to get U.S. totals. The iron and steel industry, which comes closest, receives monthly totals on production two weeks after the close of the reporting month.

It is of more than passing interest that the Meat Inspection Law which was passed in 1906 serves adequately today to apply a control program in an industry that has made many changes since that time. Every operating procedure used by the industry has changed radically. Its manufactured products have increased manifold in kind and volume and they bear little resemblance to those prepared in the meat plant of 50 years ago.

We who administer the law have every reason to believe that it will continue to serve industry as it looks to advances in physics, chemistry, biology and electronics for contribution to methods and products. Also, the law will continue to meet the demands of the American consumer that all changes and improvements made by the industry will be consistent with his interest in a clean disease-free meat supply which is not adulterated and not misbranded.

We are proud to join with the American Meat Institute in celebrating this 50th birthday. During these 50 years the meat packing industry and the American livestock economy have made tremendous strides to which we know your Institute has made notable contributions. As we enter the next 50 years, we in meat inspection are happy to be a member of the so-called meat team that can look back to years of accomplishment and forward to continued progress.

Salaried Employee's Wants



HOW TO KEEP white collar workers satisfied is discussed by J. M. Bertotti, manager of personnel practices and research of the General Electric Company.

TODAY, as never before, we are hearing more and more about the salaried or "white collared" employe, his problems, his wants, his interests and his needs. Almost daily we see articles in our daily newspapers, magazines, trade papers and technical journals dealing with the subject.

Almost every professional association or society has held a conference or seminar on the topic during the past few months including the American Management Association, The National Association of Manufacturers, National Industrial Conference Board, the Radio and Television Manufacturing Association and the American Meat Institute.

Why the apparent sudden interest in a subject that has been with us for decades? The answer can be found in these four areas.

1. New interest of trade unions in an expanding source for membership dues: Today we have some 66,000,000 or 67,000,000 people in our working force in the United States. From this working force the salaried employes make up a potential union membership of 16,000,000, but the rate of salaried to hourly employes is changing steadily. This trend should continue over the next several years as we tend toward more mechanization in our industries with the attendant upgrading of the skill levels required in our work force as we get machines to take more and more of the manual work and drudgery out of our work.

Unions overall are confronted with a marked slowdown in efforts to add more hourly employes to their dues-paying membership rolls and are turning toward the more rapidly growing salaried groups. Interestingly enough, their efforts to unionize the 16,000,000 salaried employes have not fared too well with only 1,112,000 now organized despite over 60 years of effort on the part of the union organizers.

Nonetheless their efforts are now taking on a new intensity. All indications point to more effective organizing efforts as both white collar unions and industrial or trade unions become more proficient in the types of appeals that are effective with the various types of salaried employes. That all salaried employes will be approached is indicated by a remark attributed to an official of the Teamsters Union (which incidently was successful in organizing a group of Cadillac salesmen in New York who averaged \$14,000 per year in earn-

ings) when he said that their jurisdiction extended to "anyone who traveled to work on wheels."

2. Increased attention by professional societies and associations: A second reason for the stepped up interest in this subject is the increased attention from such groups as the National Society of Professional Engineers, the Engineers Joint Council, etc., which are naturally interested in the welfare of their members. Unfortunately, in their interest to point up the issues they released considerable data that have been misinterpreted by many. This deals particularly with nationwide salary studies that many regard as typical of what exists in all industries or companies. I'll touch on this problem a little later when we get down to specifics of what management can do.

Added to this is the increased attention by associations such as American Management Association, National Industrial Conference Board and National Association of Manufacturers, which are constantly gathering data on timely topics for consideration by their member companies.

3. Emergence of social science as a tool of industry: Third in the factors leading to aroused interest in this area has been the coming to the front in industry of the social scientist. During the last five years we have seen more and more attention being paid by management to finding out truly what people want from their work, how satisfied or dissatisfied the employes may be with their jobs and employers.

Years ago the tools for making determinations in these areas were rather crude. Today, however, we are continually receiving better and better information. Some of it, to be sure, has been dramatized by our newspapers and periodicals to a degree never intended by the researchers—such as the motivation studies conducted by the Survey Research Center at Ann Arbor or the findings from a survey of engineers and technical people undertaken a few years ago by a University of Chicago group.

Behind this front of publicity, however, scores of companies are quietly going about carrying on good sound work of sampling employes at all levels regularly through questionnaires, interviews, round table conferences, open forums, etc., truly to find out how the employes feel about their total work situation.

4. Natural desire of employers to do right: Per-

haps the greatest stimulant to increased attention toward the salaried employe and his problems comes from the employer himself. He, better than anyone else, understands the vital importance of this group of employes to the success of his enterprise. He, better than anyone else, sees the trend toward more and more "professional" employes in his business as all industry pushes forward in its efforts to take manual labor and drudgery out of its work.

This the employer knows he must do if our gross national product is to expand 40 per cent in the next decade with only 14 per cent growth in the labor force as the economists are predicting. He, better than anyone else, knows the importance of having a work force made up of individuals that are pleased with their jobs as they want to be pleased with them if we are to realize all the wonders that our economy holds in store for us.

What does the salaried employe want? If we are truly sincere about pleasing all employes with their jobs insofar as it is practical to do so, then how do we go about it? Mason Haire in his book "Psychology in Management" lists the three prime needs of men in order of importance as: 1) Economic, an adequate plane of living and the necessary amount of job and wage protection; 2) Psychological, the personality requirements of freedom of action, self expression and creative outlets, and 3) the ties and bonds of group relations and community life.

According to Haire, man's prime need or drive is economic, but once that begins to be met to a reasonable degree it drops back in its importance and the social and psychological needs come to the foreground. This was vividly demonstrated in a re-

cent survey made in 24 manufacturing plants and reported by the U. S. Chamber of Commerce. Employes in these plants were asked to rate a number of factors in order of importance to the employe.

Here is how they expressed themselves: 1) Full appreciation of work done; 2) Feeling "in" on things; 3) Sympathetic help on personal problems; 4) Job security; 5) Good wages; 6) Work that keeps you interested; 7) Promotion and growth in the company; 8) Personal loyalty to workers; 9) Good working conditions, and 10) Tactful disciplining.

"Good wages," the economic need, is only fifth in the list while "job security" is fourth. The "psychological" and "social" needs dominate, but only because the economic needs are being pretty well met. We certainly should keep these facts in mind as we go about the task of further examining our job situations and the changes we propose to make in them more adequately to please our employes as they want to be pleased.

I was quite impressed several months ago when I attended a meeting of the N.I.C.B. at which John Taft of the E.S.A. outlined the objectives of his union. Among the things they reportedly were asking for their members were:

A. Wage increases on a percentage basis, rather than a flat cents per hour basis, to eliminate pay leveling and preserve proper differentials.

B. Merit review system, including annual appraisals by each man's supervisor.

C. Modified seniority provisions that include proper recognition of education and ability.

D. Recognition and pay for patents.

E. Compensation for overtime work.



THE AUDIENCE at this convention session must have liked what the speaker had to say for they seem to be giving him a great big hand.

F. Provision for advanced night school study and leaves of absence for advanced study.

G. Better utilization of engineers and technical people on technical work.

H. Individual treatment rather than being treated en masse like hourly employees.

I. Provision for membership in technical societies and attendance at technical meetings.

What interested us most, of course, is that these were, in the main, the very things that we at General Electric had long ago found that our people wanted, and had been diligently trying to provide for our people in as practical a way as possible at our various locations in the company.

The reason for our discussing this topic today, of course, is not to present more information regarding the fact that a problem, or an opportunity, does exist to do more in the area of salaried employee relations, but to talk about specific things we can do in a positive program in this area. Here we need not look for a new magic formula, but just go back to some fundamentals that apply to all human relations. In short we again have a good case where the emphasis of the obvious is of far greater importance than the elucidation of the obscure.

Here are some practical suggestions crystallized by a subcommittee of the N.A.M., and which we in General Electric have been pursuing with renewed vigor for the last year or so.

1. Carefully review your present practices with salaried employees at all levels. The major approach should be on the *careful* review rather than an approach of merely sitting back and thinking about your relations with salaried employees overall. For example, at Gen-

eral Electric we have gone from location to location and carefully examined our practices with four distinct groups of salaried employees: a) clerical and secretarial employees; b) functional specialists such as planners, draftsmen, designers, etc.; c) professional specialists, including engineers, scientists, salesmen, accountants, writers, etc., and d) managers, supervisors and administrative personnel.

This is the classification we have arrived at in the General Electric Co., but I imagine it would hold up pretty well in the meat industry also. It becomes apparent at once that such an examination will reveal practices that are extremely important to one group of employees that may have little significance for other groups.

In some instances, certain practices must be adhered to because of the wage and hour laws that do not apply with others. Further to reduce the analysis to as systematic an approach as possible, we then examine our practices with each group in four distinct areas: a) status and recognition; b) compensation; c) communications, and d) supervisory practices.

Here again we find sharp differences from one group to another. Engineers, for example, may be well satisfied with our pay practices but feel that we are not affording them "status and recognition" that is comparable to that of foremen or supervisors who are actually paid less than they are. While status and recognition symbols as freedom from ringing time clocks, assigned space in the parking lot, listing in the company organization chart and telephone book, invitation to management meetings, etc., may not seem important to many of us, they often are serious sources of irritation to those who are denied these prerogatives



MAYBE IT WAS a little too soon after lunch, for the camera seems to have caught a nodder or two in this convention audience.

long after they feel they have really earned them.

Such a review may show that we are spending a considerable amount of time and effort in training shop foremen in human relations, job construction, job methods, etc., and devoting little or no effort to training the supervisors of our engineers, sales people or office personnel. Likewise our communication practices, both upward and downward, may be first rate for our manufacturing personnel while such key groups as our accountants or other service people are kept no better informed than what they can glean from the employes newspaper or the grapevine.

This then is the starting point—carefully analyze your practices across the board, with all groups. Isolate those few situations where you feel you can and should do better and then establish a program to get it done.

2. Keep your employes informed. It doesn't suffice to have good practices or good intentions about doing the right thing if your employes are not aware of it. Hence, we have the need for good communications both ways. In examining our relations with salaried employes, or hourly employes for that matter, we can often fool ourselves by trying to sit back in our offices and guess what our people may feel about certain matters.

How much better to go to your people and ask them for their own impressions of how they feel about their pay, their working conditions, their opportunities for advancement, their bosses, or how well they think you're running the business. This can be done effectively, as has been proved time and again, through attitude questionnaires, personal interviews, round table conferences, individual "How Am I Doing" sessions, suggestion plans and many similar methods.

Invariably the very fact that management lets the employes know that it is interested in his welfare and wants his suggestions on how things can be improved will result in an immediate lift in morale across the board. Such efforts at soliciting employes' opinions must be sincere, with a foregone determination on the part of management to do what can practically be done in correcting any of the situations that may arise. Often it will be found that wrongs exist in the minds of employes only because adequate information is not available to them.

Here the correction of the problem is relatively



HOG RAISER Jim Wilson of Iowa, who was a speaker at the livestock session, examines the **PROVISIONER's** hog grading sample set on display at the magazine's convention service center. Packers, teachers and others have found the sets helpful in demonstrating grade differences to producers.



CLOSE INSPECTION is being given parts of emulsifying machine in Griffith Laboratories booth by a coterie of packers.

simple since most of us already have well established channels of supplying the right information if we only know what is needed. For example, some groups, including the Office Employees International Union, circulated information showing that office employes had trailed shop employes in wage increases in the years from 1939 to 1952 as follows:

In 1939 office workers were averaging \$33.04 as compared to \$25.44 for the factory workers. In 1952, the OEIU tells us, office workers were averaging \$66.63 against \$69.24 for the factory workers. The *New York Times*, however, on June 18, 1956, published the findings of a government survey which claimed that the weekly pay checks of office workers were going up at a faster rate than those of factory workers; they were up 27 per cent in five years. As far as the union's figures were concerned, we recognized, of course, that generalizations of this sort can be very misleading, and presented data on our own General Electric locations regarding this.

Our New York City employes were more interested, for example, in a statement by the B.L.S. showing that the very opposite was happening there, with office salaries up 27 per cent during the last five years while factory wages were up but 19 per cent. Similarly, when the N.S.P.E. published charts showing how the engineer's pay had lost ground from 1939 to 1952 in comparison to wages paid to skilled laborers, we compiled similar statistics again to show that these generalities did not apply at General Electric. Our results in doing so are well pointed up by this article in the August, 1956, bulletin of one of our engineers' associations, entitled: "We're Better Off Than We Thought."

Other situations may call for changes in the job situation that seem rather trivial to us, yet are very important to the employes affected. These, too, usually can be corrected without too much difficulty. Still other situations that arise may for the time being be beyond the scope of what we can take care of. In these instances, it's amazing how reasonable people can be when management discusses such matters with them—openly and fairly.

What they want, of course, is to know that we are *interested*, and that we are *trying* to do what is right. This lesson was brought forth so clearly years ago

in the now famous Hawthorne experiments. It's ironic that we don't make more use of such information in our day-to-day work.

3. Give every employe an opportunity to be heard regularly. I've already touched on this point somewhat under Item 2, but it needs re-emphasis. Too often we feel that because we have an employes' magazine that's issued once a month and an announced



CANADIANS relax and seek inspiration: Emil Masse, president, Industrial and Development Council of Canadian Meat Packers; H. Keith Leckie, secretary of the Council, and Gordon A. Rose, chief of meat inspection, Canadian Department of Agriculture.

"Open Door" policy (that's usually never used) our communications program is complete. The techniques for regularly seeking out employe thoughts and ideas described earlier must be handled on an organized basis or they just won't get done. Many companies, recognizing that employes often are reluctant to voice gripes or dissatisfactions, without the assistance of a union steward or some similar intermediary, have taken steps to establish formalized grievance procedures for employes not represented by bargaining agents. Such firms as Burroughs, Thompson Products, Pitney Bowes, Piasecki Aircraft and our own General Electric Co. have had considerable success with this added form of soliciting upward communication from employes.

4. Be sure your supervisors of salaried personnel have the responsibility, authority and training to do the job. For years we spent hour upon hour trying to help the supervisors of our hourly personnel become better equipped to handle their employe relations problems. In many cases we were forced to do this in order to keep pace with the tempo forced upon us by bargaining groups who approached our employes from *without* when they sensed that we were not wise enough, or interested enough, or willing enough to do what was obviously necessary from *within*. In a great many cases management had stepped up to its job already and here the organizer's appeals fell on deaf ears. Today the same situation may prevail in many cases with salaried employes, although in most instances management quite obviously has met the challenge as evidenced by the slow progress made in unionizing these key people.

If anything has become apparent in our combined efforts in working toward better relations with salaried people it's this: Salaried employes want, above all else, to be treated as individuals and not subjected to blanket treatment, en masse, as invariably happens when they become unionized. Strangely enough it's much easier to make blanket decisions that affect all people in a group, but it also is the least fair way of doing what is right. Lazy supervisors often rebel against taking the time necessary to look at each em-

ploye carefully, as a lone individual, to decide what is fairest for him and him alone.

They know it's hard work to sit down with each man and talk to him about how they together—the supervisor and the worker—are doing and what they can do together to do things better. Hence, we emphasize being sure first that the supervisor has the responsibility and authority necessary to do this, and the training and the stimulus to do it right.

At the Silver Bay conference on human relations in July of this year, Professor James Healy of the Graduate School of Business Administration at Harvard University warned that within the next ten years we might well see the emergence of a new union composed of a third of a million professional engineers and scientists. Mind you, this is not a prediction but a warning. Healy went on to say that this would come about unless management went on to do what was necessary in its overall relations with this important group. I, for one, don't feel that Healy's warning of dire things to come will come about. Management in every type of business and industry is aware of the needs in this broad area.

Everywhere we see people working hard at the problem of determining, for themselves, what are the



A LITTLE REST between activities is enjoyed by Mrs. D. A. Scott and D. A. Scott of the Brown & Scott Packing Co., Wilmington, Del.

real things that need to be done, and systematically going about to get them done. We are making real progress in getting closer and closer to the answer in pleasing our employes with our jobs as they as *individuals*, not as *large impersonal groups*, want to be pleased. How well will we be able to do the job? Our success in this area will be only as good as the effort we are willing to put into it.



OPENING SESSION speakers: MIB Chief A. R. Miller, U.S. Senator John J. Sparkman, personnel expert J. M. Bertotti and San Francisco radio commentator Harry Schacht of station KNBC.

Look West, Meat Packers



A BLOW BY BLOW account of the development of the West Coast as a livestock producing and feeding and a meat consuming area, by Henry Schacht, director of agriculture for San Francisco radio station KNBC.

AT THE RISK of seeming provincial, a role that we Californians try to avoid, I suggest that some of you may not fully realize the metamorphosis taking place over the western states. We go back a long way in the livestock business. When Daniel Webster was a freshman Congressman, the missions of California had been running sheep and cattle for a half-century. In the early 1800's Boston ships anchored off the California coast to pick up hides and bags of tallow pitched over the seaside cliffs to the beaches. The Spanish reckoned the hide and tallow from a steer at around \$5. The Boston market for hides was 12½¢ a pound, but there was no market for the beef. Hides and tallow were the salable commodities. Beef was the byproduct. Today we have come full circle, with hides and tallow the by-products and California the fastest growing market for meat in the United States.

The Pacific Coast is the target of the greatest peacetime migration in history. Every week 12,000 more people enter California to stay and immediately become Californians. With our weekly quota of new residents we also receive a need for 6,600 new motor vehicles, a demand for 4,000 new places to live and 165 new classrooms. Investments in new plants and expansion of old ones are up 110 per cent this year over 1955. Our industrial payroll is \$5,000,000,000 annually.

California may lead, but the rest of the Coast has also experienced enormous growth in the past ten years; once new pipelines bring in more industrial fuel to the Northwest, its growth will accelerate.

REVOLUTION IN THE WEST: To the highly competitive meat industry that operates on large volume, this rapid development holds a bright promise for the future if we consider only the number of potential customers being added to our western market. Before we consider that, however, let's look beyond the burgeoning suburbs to the grassroots revolution that has been taking place in the western livestock business.

Newspaper editors of the early western boomtowns were noted for unbounded optimism. Their sure faith in each trailside stopover held almost to the time that they loaded up to move on to another bonanza. They lauded the livestock industry as well as the gloryholes of Bodie and Tuscara.

The weekly *Independent* of Elko, Nevada, on July 17, 1869, trumpeted that "as good beef can be obtained in midwinter from cattle feeding on our hill-sides as can be bought in the eastern market." Four months later the *Independent* reported, "J. O. Shirley shipped 10 head of beef cattle, weighting 2,500 lbs. each, to San Francisco. These cattle were fattened on grass alone. Many people labor under the impression that Nevada is not good cattle country, but in winter or summer cattle will grow fat on the abundant grass and the white sage which is better than barley."

Four-year-old steers, fattened on bunchgrass and sage—what reception would they get today?

Our Nevada editor's point of view was common in the West even after the Gold Rush stimulated a market that brought a million head of beef to California by 1860—many of them the first of improved breeding stock that the Coast had ever seen. Ten years after the discovery of gold California also was running a million head of sheep—many shipped from England and Australia.

These flocks also helped to populate the sheep ranges of the Rocky Mountain country. As many as 75,000 sheep in one band were driven from California to Montana. Hogs came in, too, the Berkshire breed imported even before the Gold Rush. Philip D. Armour was among the pioneer dealers in hogs in California.

Most ranchers, however, paid little attention to real quality, nor did their customers. The old western idea was that good beef was heavy beef and a good steer was a big steer. California in the early 1900's was known as a good place to eat lamb, but a poor place to eat beef, and a very poor place to eat pork. Restaurants advertised corn-fed beef for their few discriminating customers.

The legend that only corn fattens beef properly was born in those days. Today we know that we can finish beef to the same quality on our own native feeds and concentrates, including such exotic feeds as orange pulp, cull cantaloupes, and even artichoke silage. Scientific test has shown the latter is only slightly less nutritious than corn silage.

Forty years ago California steers stood grand champion and reserve champion at the Chicago Interna-

tional. The grand champion brought a world record price and yielded 68 per cent without a bite of corn. The University of California did this to prove a point, not only to the Midwest, but also to Westerners.

GOOD MEAT TO EAT: The entire West is today a good place to eat beef, lamb, and pork, although we depend on the Midwest for most of our pork. California lamb in early spring tops the New York market. We have shipped as many as a half-million dressed lambs East in one year. California, itself, is a great lamb-consuming center; the per capita consumption is generally estimated at two to three times the national average.

Millions of animals are drawn into the great maw of this fast-expanding Coast market—up to a million and a half sheep annually—last year, just short of two million head of cattle into California alone, some for immediate slaughter and others as stockers and feeders; 1,653,000 hogs and pigs were shipped into California last year from as far east as South Dakota and Minnesota. Half the nation now has a stake in this Coast livestock market. For the past five years California has led the nation in cattle slaughter.

In just 35 years the West has made the transition from the old ranchero methods of producing livestock. The market for better-finished animals has increased along with the influx of population. The expansion of agriculture provided the concentrates needed for production of higher-quality meat. To mention only two, the cotton and sugar beet industries supplied dried beet pulp and cottonseed cake. Development of irrigated pastures—we now have close to a million acres in California alone—has done much to stabilize both cattle and sheep production and has opened new alternatives and new markets for both. Lamb producers have benefited very greatly. Feeder lambs coming off grass, which were once a drug on the market, now find an outlet to ranchers who have irrigated clover. Lambs that once sold as grass-fat yearlings, now top the Eastern market in New York as fat spring lambs.

Cattle and lamb feeding in the West is the indispensable link between the range, where our great crop of grass is harvested, and the ultimate consumer. On September 1, well over a million head of cattle were in feedlots on the Coast and in the three states immediately to the east.

FEEDING BIG BUSINESS: California and Arizona have turned cattle feeding into really big business. California now has some 550 feedlots and 70 per cent of the cattle fed in that state come out of lots that handle 10,000 or more head per year. We have a substantial number of feedlots that will carry more than that at one time.

In California last year, cattle feeding, the number of calves raised, and cattle slaughter all rose to new records. Dressed beef and veal production in the state climbed to approximately a billion and a half pounds. On January 1, California's sheep population totaled slightly over two million, the largest total since 1947.

To tailor the sheep industry to the new emphasis on lamb as opposed to wool, has required shifts in breeding, feeding, management and even in the choice of breeds. However, the industry now stands capable



EXHIBIT of Livestock Conservation, Inc., gets serious attention from a conventioneer with savings on his mind.

of meeting the demand for high-quality lamb and is in good position to grow in production as this demand increases.

One thing seldom mentioned is that besides having large numbers of cattle, we have increased our production potential through better breeding, feeding and management. True, the trend is toward lighter cattle, but consider the possible effect of market conditions.

When feeder cattle prices are low, a rancher may choose to put his cattle through a feedlot rather than let them go off grass. When fat cattle prices decline, animals already in the feedlot may be held longer than normal in hope of a market upturn. If you hold 300,000 head for another 30 days, you add around 24,000,000 lbs. of beef to the supply that has to be sold.

This very problem appeared early in this year when many cattle were held longer than usual and fed to heavier weights. The widespread use of stilbestrol in feedlot rations further boosted the production and we came up with a tough marketing problem in these heavier steers.

To digress just a moment, some of you have been asking whether the recent great expansion of corn acreage in California means we're going to raise more of our own hogs. More, yes, but nothing to rival Iowa or Illinois. Our corn is more likely to go into feed for poultry, beef cattle, and dairy herds because past experience has shown that it promises a greater return in California as milk, butter, beef and broilers than as pork.

We have a tremendous meat production plant in operation. Meanwhile, the promise of growing population hangs like the cart before the horse and leads us off into optimistic visions of ever-growing demand for meat products. Employment and per capita income are at all-time highs. People like high-quality meat, are willing to pay for it and we can produce it. The combination looks as good as a royal flush in five-card stud.

We know it isn't that simple. Last year the meat packing industry poured out a new record tonnage of dressed meat, yet your net earnings were \$53,000,000 lower than in 1947. Costs, taxes, and competition all put on pressure and are not slackening.

The livestock producer, too, has raised more, sold

more, and seen his profits dwindle into red ink. And this has happened at a time when relations among all segments of the meat industry are better than ever before. The year 1955, with its record meat production, was marked by a monumental sales effort in which all the industry participated.

AMI MOVED VOLUME: Your own American Meat Institute did excellent work throughout this campaign, especially with its point-of-sale promotion material supplied to 15,000 supermarkets handling approximately 50 per cent of all the meat sold in the United States. As one of our California newspapers editorialized, "The mountain of meat was moved into consumption, not into storage. The best thing to do with any surplus is to encourage people to buy it and use it." Yet last year was a poor one for livestock producers, a disastrous one for many cattle feeders, and no bed of roses for the packer, even though your industry did better financially than the year before.

It is all well and good to adjust rose-colored spectacles and gaze fondly into a future when growing population is supposed to solve all problems. Efficient production and skillful merchandising offer a surer salvation.

I once had a prominent California feeder, a transplanted Minnesotan, tell me, "I could make a living back home on what these Californians waste." He said it with a grin, but he was kidding on the square. By this time, the honest livestock man knows full well that the free and easy days have passed and he's buckling down to work. He knows he must produce the kind of animal the customer wants at the lowest possible cost per pound—or turn in his suit to the bank.

One problem many stockmen from coast to coast have had to face is that increasing population often means higher taxes and greater restrictions. Close to the large urban areas the pressure is definitely on.

Just this month an 8,000-acre cow ranch, 30 miles from Los Angeles, sold for over \$10,000,000. It will become a new suburb housing 30,000 families. Houses and shopping centers spring up around the rancher, new freeways cut across the country and once-isolated sheepmen find their flocks attacked by dogs that wander away from suburban dwellings. As one cattleman near Oakland said to me, "We're in the same position as the Indians when the white man came West."

In California, at least, livestock production is being pushed more and more into the foothill range country. Happily, this has coincided with a great new interest in range improvement. In California thousands of acres of worthless brush have been burned off the hillsides and this land has been reseeded to better forage plants, fertilized and made to produce bountiful returns.

The sagebrush country east of the Cascades and the Sierra has experienced a similar renaissance. Much remains to be done, but we are on the way. I know of ranches where fertilization has increased range feed over 200 per cent, and where removal of brush and reseeding by airplane has boosted the carrying capacity of the range by 300 per cent. One of our farm advisors is working on what he calls "fooling the grass."

A NEAT TRICK: Phosphate fertilizer applied in late



POLITICAL DEVELOPMENTS on the farm front may be the subject of chat between Aled P. Davies, director of the AMI department of livestock, and U.S. Senator John J. Sparkman of Alabama, Democratic vice presidential candidate in 1952.

fall seems to warm the soil, and the grass, not knowing that spring is still far ahead, sprouts in midwinter. On good rangeland this practice has increased winter beef production 250 per cent and enabled cattle to come through the winter in good shape without supplemental feeding. This has only been done on a small scale. If it works out, we'll really have something. This new emphasis on range improvement is one of the most exciting developments in western ranching today, and it's come about almost entirely in the past ten years.

Improved breeding of livestock is on everyone's mind. In breeding cattle sales today, official grading is common with buyers studying the grades as a basis for bidding. Some ram sales now grade their offerings.

The western states have joined through their experiment stations in promoting weighing, grading, and record-keeping as a basis for more efficient selection of breeding cattle. They are adding new scientific criteria to those long established by the show ring.

In the southwest new breeds of cattle are being fitted to the country—the Brahmas, Charrolais and crossbreds. On September 2 in Los Angeles, a load of steers from a Yuma feedlot topped the market. They were crossbred Brahmas.

The emphasis must be placed on higher production per acre, lower cost per pound, faster maturity, higher quality and good management. Unsatisfactory prices for feeder cattle have led many ranchers to try finishing their cattle to Good and Choice grades on irrigated pasture, supplementing this diet with a mixture of concentrate and salt.

In northern California this year steers finished in this way went to market at 15 to 16 months weighing 900 to 1,000 lbs. Records from Shasta County showed home-finished steers grading 60 per cent Choice and 30 per cent Good with carcass yields of 60 per cent. These brought just a cent less per pound than cattle from a commercial feedlot.

To do this sort of thing you must have both good pasture and good cattle. One cattleman found, for example, that one steer gained 140 lbs. in 104 days while another gained 280 lbs.—and both were on the same ration. We're going to see more of this type of cattle feeding when the market warrants it.

We're going to see innovations in feeding rations. Stilbestrol, of course, is now established in the feeding business. It will not be the last of the hormones to find a place in feeding both sheep and cattle.

Green-chop alfalfa, developed first among dairymen, is being adopted by cattlemen. Feeding of pellets containing 60-70 per cent roughage is a growing practice among sheepmen. In California's Sutter Basin last year one company finished 30,000 lambs on pellets containing 57 per cent alfalfa meal, 35 per cent barley, and 8 per cent molasses, with a shot of aureomycin, free-choice with grass silage.

One bunch of 21,000 graded 96 per cent Choice and the company guaranteed a 50 per cent dressing percentage. In Modoc County, California, this year a leading cattleman compared cattle fed on 16 per cent protein pellets with cattle on cottonseed cake. He found that the pellet-fed steers gained faster, gained more, and netted more on the market. In commercial feedlots as many as eight different formulae are used, depending on the cattle. There are indications of other new developments in fattening feeds.

MECHANIZED FEEDING: We hear a great deal these days about automation in industry. Our feeders have long since adopted it in their feedlots to lower operating costs. One feeder near Linden, California hires three men to do the work that required 30 men before he installed his pushbutton system. His mill mixes the feed for 10,000 cattle in four hours. Trucks carry the feed to the bunkers and spew it out through spouts so that a ton of feed can be dropped in three to four minutes, untouched by human hands.

Obviously, we are making progress on the production side. How about that even more difficult area of marketing? What share of the consumer's dollar will the meat industry gain? It has been predicted that within ten years the market for food of all kinds could increase at least 45 per cent, adding at least \$30,000,000,000 to food sales.

L. E. Scott, vice president of Foote, Cone and Belding, recently laid out the problem in seizing this opportunity. He said, "The major part of the 45 per cent increase must come about through increased *per capita* consumption and expenditures for food. We can do this only by upgrading the diets, the quality and the selection of food available. Whether we succeed depends upon the ingenuity and aggressiveness with which we tackle the consumer."

Mr. Scott might have said that about the meat industry alone. True, we have a wonderful story to tell about meat with its high nutritional value, flavor, great variety of forms and uses and high protein to help keep down the pots and bulges. Meat just naturally has a head start on much of its competition, but you must be in shape to finish the race.

Many social forces over which the industry has little or no control will affect the consumer's decision as to how to spend his dollars. The basic need for food to maintain energy is dropping as physical labor decreases. As income goes up, the economists say, the percentage spent for food tends to go down.

EVERYBODY WANTS \$: Never has such a supply and variety of consumer goods competed for the dollar. New demands are rising. Travel has become a whole new industry on which Americans spend billions every



CROWD PACKS the lobby on Saturday morning as conventioners hurry to a good place in one of the section meetings.

year. The desire for security has stimulated record spending for insurance. Optimism over the economic situation has siphoned millions into investments. More people now own common stock than ever before in history. Competition for the dollar is terrific in all fields of business.

Some of the new factors in operation favor this industry. The home freezer has aided meat sales. When meat is right there on hand in the freezer, the natural inclination is to eat more of it. Put the freezer together with the backyard barbecue and you have a potent combination. America's new penchant for outdoor living has been a stimulant to the sale of meat and meat products.

Part of the coming effort, of course, must go into fundamental research, such as that carried on by your own American Meat Institute Foundation. I have had the pleasure of interviewing President Har- enbergh and Dr. B. S. Schweigert of the Foundation. I have been impressed with the research going on there that promises significant benefits; the research on uses of animal fats in livestock and poultry feeds; the hides research; the research on sterilization of meat by atomic energy to increase shelf life—who knows what the end results may be?

However, research is a long-range proposition. Meanwhile we have to keep slugging for the business and we always will have to do so. The livestock industry has been slow to mobilize its entire resources for the promotion effort.

In California, for example, we have 23 separate



AUDIENCE TAKES a seventh-inning stretch during opening session.

state marketing orders under which funds are collected from producers and used for research, advertising and promotion. We have orders for turkeys, dairy products, canning peaches, asparagus and raisins—to mention a few—but we have none for beef, lamb or pork. Less than a month ago California cattle producers turned down a state order which would have assured enough money to do a pretty fair job on beef promotion.

WANT BEEF DRIVE: The producers' part in all this is going to be smaller than many of them hope for until some sound way is found of collecting money for sales promotion on a continuing basis. I attended a meeting of the National Beef Council on the day after California's vote on the state beef promotion order was announced. There were some long faces around the table. Let me say, however, that there was no slacking of determination among these nationally influential cattlemen to seek a satisfactory national program.

The sheep industry has a national program now with a good deal of money to spend. It believes it



WORTHWHILE INFORMATION is found by Robert McKinney, Davidson Commission Co., and William Gretsche, Warner-Chilcott Laboratories, at an American Meat Institute booth.

has good prospects of increasing lamb consumption. This program has one drawback for many ranchers: the fact that it operates through the government. I do not believe that beef producers would agree today to a government-sponsored promotion program, but if no other way is found, and their situation does not improve, I will not say that they would reject it at some future time. This will be particularly true if the lamb and wool program produces the desired results.

Cattlemen recognize that the packer must sell meat in great volume in order to protect his net in the face of rising costs and competition. I know, however, that there are cattlemen of influence who think the packer and retailer aren't much interested in their principal concern—which is raising the price of live animals.

On that point, it is abundantly clear that marketing margins on dressed meat haven't fluctuated as much as livestock prices in the past 25 years. On the other hand, the stockman has had more chance to cash in big when prices were high.

The best of families have their squabbles. The important thing is that relations among producers, feeders, packers, and retailers are better now than they

have ever been in a period of heavy production. This cooperation has helped to ease a good many rough spots. I hope we're learning well the lesson that everyone needs everyone else's cooperation.

The fruits of cooperation in sales promotion are well illustrated by the 1955 sales record, as documented by the National Association of Food Chains. The self-service supermarket is a very potent force, as all of you know, in food distribution. Modern, pleasant and convenient, providing ample parking space and specializing in attractive displays and consumer-size packaging, supermarkets are tremendous merchandisers.

In the 1955-56 meat campaigns 240 food chains, operating 12,000 supermarkets and stores, cooperated through their national association on 14 organized intensive sales efforts for beef, pork, and lamb. The association estimates the chains spent \$50,000,000 on advertising and promotion in the 1955-56 fiscal year, to help move the record meat supply.

I don't mean to imply that they did the job alone, because other retailers, producers, packers and government agencies all contributed to the common end.

In the interest of brevity, however, let's consider the chains' record of accomplishment. They show that, during campaigns of January and February, 1956, their pork sales rose 24 per cent from the same period in 1955; beef and veal tonnage was up 26 per cent; and lamb and mutton, up 32 per cent. Sales promotion, obviously, can be a mighty weapon when properly directed and financed.

Valuable as they are, advertising and promotion are not curealls. Some of our ranchers, I believe, are oversold on what promotion can do for them. It can never be a substitute for efficiency and high-quality production. For one thing, there's a limit to the amount the human stomach can hold and everybody is trying to cram it full of his product.

Promotion and advertising can help the meat industry gain a fair share of the bonanza, but they won't steal the pot. There are too many other people holding aces of their own.

I have been writing and broadcasting now for 20 years. I haven't been around since the days when the whole California steer wasn't worth the salt you put on him, but I did come of age in the era of the nut-berger and the chiliberger . . . and I have seen something of this revolution in livestock and meat production methods. Every generation likes to think that it has bettered the record of its elders. The dons of early California reached what for their day was an apex of good living. Stripping away the golden haze of romance, none of us would accept that life today.

I have now passed that magic milestone at which life is supposed to begin. Given peace for our children, I expect to see new revolutions in living. I expect to see the meat industry—from the grassroots of the range to the retail counter where today's big boss, the housewife, sets our markets—march on in a parade of concerted progress.

I expect to see a more tightly-knit industry with all segments contributing to the common objectives. I expect to see the fruits of research, initiative, energetic merchandising, and efficient production preserve your rightful place as one of our basic industries.

Small Business at Bay



SMALL BUSINESSMAN may become as extinct as dodo unless he gets credit and other help soon, according to U. S. Senator John J. Sparkman of Alabama.

A HALF a century ago, almost to the day, here in Chicago, about 100 large and small meat packers with wisdom and vision gathered to create an organization through which what was to become one of our nation's greatest industries might seek cooperative and harmonious solutions to some of the staggering problems which then confronted the meat packing industry.

The members of the meat packing industry may, I grant, take justifiable pride in the achievements of the American Meat Institute. Anyone at all familiar with the history of the meat packing industry during the past half-century cannot help but agree that you have had your share of problems. For you who know them so well, I need make no list. But that each of these problems, some being of great complexity, has been met in truth, and, by and large, surmounted, is an eloquent commentary on the common sense of the policies and programs developed by your industry and expressed through your Institute.

In brief, I would not disagree with the generally-held point of view that there are few trade associations in existence today which have consistently through the years followed a more progressive pattern than that of the American Meat Institute. Had your philosophy tended to be narrow and self-centered, meat packers in all probability would not today enjoy their high place in the hierarchy of American industry. The secret of your success, I am convinced, is your early awareness that your industry could best serve itself by serving and working closely with others, namely, the farmers and cattlemen on the one hand, and on the other, the wholesalers, the retailers, the restaurant trade and finally, with the supreme judge of your efforts, the American consumer.

My own interest in the meat packing industry is not wholly academic. I was born on a farm in Alabama and at an early age had done my share of barnyard slaughtering. Since 1936, first as a Congressman and later as a member of the United States Senate, I have taken an active interest in all phases of our national agricultural economy, in the agriculture of the South, and most especially, in the farm problems of my own state of Alabama.

LIVESTOCK PRODUCTION IN SOUTH: In recent years it has been gratifying to observe that livestock production and marketing has become more important

in the South. The trend in livestock marketings in the Southeast since 1926 has been toward larger numbers of cattle, calves and hogs but smaller numbers of sheep and lambs. Since 1949, the number of livestock on farms, most noticeably beef cattle, has increased rapidly. In Alabama, for instance, cash receipts from cattle and calves as a percentage of total cash receipts has risen from about 2.5 per cent in 1934 to 11 per cent last year. At the same time, cotton has declined in importance in Alabama since 1924 when cash receipts from this crop ran above 70 per cent of all receipts. Today cotton brings in only about 40 per cent of total receipts.

In Alabama, as in most of the South, the increase in livestock production and marketings has been due to several factors. Important among these has been the reduction in acreage formerly given to cotton and corn and the use of these acres for the development of improved pastures and forage crops. Also, with the increase in the human population and the pronounced trend of new industry toward the South with greater employment and higher payrolls, there has been a sharply increased demand for meat products throughout the South.

Meat consumption figures bear this out. In the late 1930's, the average person in the South consumed only about 99 lbs. of meat a year. By 1950, the average southerner consumed almost 122 lbs. of meat a year for an aggregate of approximately 3,750,000,000 lbs. of meat products. By 1955, the southerner had stepped up his meat consumption to 130 lbs. a year. Since there seems to be no reason to assume that this trend will change course in the foreseeable future, we may conclude that the southern market for livestock products will continue to expand in the years ahead, possibly at an even greater rate than that of the rest of the country.

There is no question in my mind but that your industry will take whatever steps are necessary to meet not only the increased demand for its products in the South but also, as our population curve continues its upward slant, throughout the nation as a whole. For yours is a constantly expanding industry, precision-gearred to match consumer needs with products and services. One piece of information about the meat packing industry which came to me recently I found



A Day in the Country for Ladies



CAPTIONS ON THE
FACING PAGE



A Day in the Country

(See facing page)

HEADING 35 MILES northwest of Chicago by bus to the little village of Long Grove, set deep in rolling Illinois farmland, wives and friends of Institute members spent part of a convention day shopping the half dozen or so old-fashioned stores, which offered a variety of antiques and modern artwares, and then lunched at the Lake Zurich Golf Club, one of Chicagoland's oldest country clubs.

During luncheon, guests heard Robert G. Robinson of Highland Park, interior decorator and antiquarian.

As a memento of the golden anniversary of the Institute, guests were presented with a set of country print place-mats and napkins, designed especially for the AMI by Robert Darr Wert of Massachusetts. The placemats and napkins were appropriately adorned with cuts of meats, old-fashioned skillets, and modern meat cutting boards.

1. Mrs. Oscar G. Mayer, jr. and Mrs. Hugo Slotkin decide which of the many antique shops in Long Grove they'll visit next. Mrs. Mayer's husband is president of Oscar Mayer & Co., and Mrs. Slotkin is wife of Hugo Slotkin, president, Hygrade Food Products Corp.

2. One of the two bus-loads leaving the Palmer House for the outing.

3. A stop between shops in Long Grove. From left, Mrs. John J. Madigan, whose husband heads John J. Madigan Associates; Mrs. Lorenz Neuhoof, jr., whose husband is a director of the AMI and president, Valleydale Packers, Inc., and Mrs. H. L. Sparks, whose husband heads H. L. Sparks.

4. Beside the barbecue pit at the Lake Zurich Golf Club, are (left to right) Mrs. D. A. Scott, Mrs. George J. Buchy, Mrs. Norman Wright, and Mrs. Edmund Buchy, whose husbands are with the Brown & Scott Packing Co., Charles G. Buchy Packing Co., and Wright Packing Co.

5. Admiring the country pump adjoining one of the shops in Long Grove are Mrs. D. A. Kilpatrick, Mrs. Max Berco-wetz, Mrs. H. G. Potts, Mrs. Daniel Dohm, and Mrs. F. J. Kielholz. Their husbands are associated with Rath Packing Co., Connecticut Packing Co., Inc., Lindner Packing and Provision Co., Dohm & Nelke, Inc., and AMI, respectively.

6. One of the most interesting antiques purchased during the antique browsing session in Long Grove was this early English iron butcher's sign, from the late 1700's. Mrs. Bernard Rice, whose husband is president of Blue Grass Provision Co., shows her purchase to her sister-in-law, Mrs. James Rice, whose husband is with C. Rice Packing Co.

7. In front of the Lake Zurich Golf Club are (left to right) Mrs. William Kling, whose husband is a director of the Institute and president of Valley Pride Packing Co.; Mrs. Vilhjalmur Stefansson, wife of the famed Arctic explorer, and Mrs. H. B. Huntington, whose husband is a director of the AMI and president, Scioto Provision Co.

8. Admiring copper bucket and ironstone pitcher are Mrs. Arthur Lavin, whose husband is president of the Sugardale Provision Co., and Mrs. George McTaggart, whose husband is associated with E. W. Kneip, Inc.

9. Indian corn was the center of attraction for these women. From left are Mrs. Ray F. Beerend, whose husband is president of Basic Food Materials, Inc.; Mrs. Ralph Keller, whose husband is general manager in charge of Chicago operations of Geo. A. Hormel & Co.; Mrs. Jack Simmons, whose husband is vice president of Stahl-Meyer, Inc., and Mrs. Russell Smith, whose husband is associated with Wilson & Co.

10. Mrs. Jean Faeh and Mrs. H. C. Griffin pause before entering the Village Green Inn in Long Grove. Mrs. Faeh is the niece of D. E. Nebergall, AMI director and president of D. E. Nebergall Meat Co., where Mrs. Griffin's husband is general manager.

of great interest. That is that during the past year, 130 new companies entered the meat packing business. Most, if not all, of these new meat packing enterprises are small businesses and, as such, they perhaps by their very existence pay a tribute to the climate of freedom and opportunity which has always been a characteristic of the meat packing industry.

OPPORTUNITY IS BASIC: What is more basic to our American way of life than the ever-present opportunity for men of initiative and talent to embark upon a business venture in a field of their own choosing and to prosper according to their ability with no fear that their natural growth may be stunted, or they, themselves, destroyed, through pressures generated by selfish and powerful monopoly-minded elements within the industry?

More and more frequently in the past few years I have heard well-informed businessmen express deep concern about the direction in which our economy seems to be guided. Perhaps it is because I am chairman of the Senate small business committee and come into daily contact with small and independent businessmen that I hear more than the ordinary share of these expressions of concern, of doubt, and of disillusionment. Whatever the reason, it has become increasingly evident within the span of the past few years that there are today many areas of our industrial and commercial life which, unlike your own industry with its recent 130 newcomers, no longer provide an atmosphere in which small companies can enter, grow and prosper.

In industry after industry, the concentration of economic power has been gathered into the hands of a relatively few large corporations. These so dominate their private industrial preserves that no newcomers would be venturesome enough to try to get past the "No Trespassing" sign, and if they had the courage to try, what banker would be foolhardy enough to extend them a line of credit calculated on 100 to 1 odds against success.

No citizen of this country, no matter how humble his station, is without freedom of speech, freedom of religion and freedom to vote for the candidate of his choice. But what of the citizen as small businessman? Does he enjoy his traditional measure of economic freedom, the freedom to pit his capital, his energy, his time and talent against competitors of his own choosing in markets that are free and open?

In some of the service trades requiring only a few hundred dollars of capital, yes. In some areas of retailing and wholesaling, yes. But unmistakable signs are that in many important industrial and commercial fields the small operator is slowly being disenfranchised. His economic freedom is slipping from his grasp. The odds have become too great. We all have watched the recent struggles of the so-called independents in the automobile manufacturing field. How much longer they can last is a question of common speculation. Yet, 25 years ago who would have been bold enough to forecast the day when there might be but three manufacturers of automobiles in the whole United States? Again, last month in San Francisco, the vice president and general manager of Westing-

house consumer products division predicted that within a few years the television, radio and electric appliance field will be completely dominated by a half dozen large companies. He attributed the great mortality of the smaller producers in this high-profit field to fierce competition and the inability of the smaller manufacturers to finance the constant retooling required for ever-changing models.

OTHERS IN TROUBLE, TOO: The outlook is also bleak for smaller and medium-size producers in the field of major household hardgoods such as kitchen and laundry equipment. The magazine advertisements of the few major producers in this field show us model kitchens where all equipment is, to use their phrase, color-coordinated, which merely means that the housewife may select almost any color she wishes and have a matched set of sink, stove, refrigerator, washer, dryer, ironer, toaster and mixer. The trade calls this "full-line fever." From the small business point of view, the harsh reality of this situation is that no distributor of this type of merchandise is going to waste his time handling a line which consists only of one or two appliances, no matter how well they may be made.

It does not make too much difference in what direction you look. Those of you who enjoy a good cigar might be interested in knowing that here again the trend is toward fewer and bigger companies. In 1939 there were 4,121 cigar factories. By 1954, this number had dropped to 1,170. Then in the single year of 1955, the number of cigar makers fell from 1,170 to 786, a 67 per cent mortality rate of small factories within 12 months. Those who could, sold out; those who could not sell out simply went out.

As a final comment on this recent and pronounced trend toward the concentration of economic power in the hands of fewer and larger companies which, some observers believe, has reached the proportion of an economic epidemic, I should like to invite your attention to one aspect of this period of so-called prosperity which is rarely mentioned. That is simply this: at a time when more goods and services have been produced in this country than at any previous time in our history, the manufacturing population has steadily declined. According to the latest available figures from the U. S. Department of Commerce, there were 326,900 manufacturing firms in operation in December of 1952. In December of 1955, the net number of manufacturers had shrunk to 308,000 firms. Somewhere along the way between the end of 1952 and the end of 1955, about 19,000 owners of manufacturing plants found the going so tough that they decided to throw in the towel.

PREMIUM IS ON SIZE: Each of us, of course, may draw whatever conclusions from this shrinkage in the manufacturing population that seem most logical. Personally, I find it difficult not to draw the conclusion that this manufacturing death rate in a period of great business activity and record profits is a somewhat strong indication that in many segments of our economy the business climate simply has become inhospitable to the profitable existence of many types of small enterprises. The premium is on size, for size



PACKERS get information on the newest developments in meat packaging films at the E. I. duPont de Nemours & Co. exhibit.

more than anything else means easy access to the money markets and attractive interest rates; size makes it possible also to spend astronomical sums on advertising. I sometimes wonder how many small and medium-size local companies can trace their difficulties to their inability to match their larger national rivals dollar for dollar in the purchase of television time.

If it seems important and desirable to preserve the free enterprise system which has made our American economy the envy of the world, to maintain a business climate which will foster, as it has in the past, the birth and growth of the maximum number of small independent units of production and distribution, then it seems to me that a positive program must be worked out to achieve this objective.

In this connection, I was pleased last May when the President appointed a cabinet committee on small business, a welcome if possibly somewhat belated recognition that small business has problems which should be of proper concern to any national administration. I was gratified also to observe that the administration considered the present state of small business sufficiently grave to require attention at the cabinet level. To the best of my knowledge, this is the first time that the general condition of the small business community has been acknowledged serious enough to warrant consideration by the cabinet.

In August, after due deliberation, this cabinet committee published a progress report which contained 14 specific recommendations for the betterment of small business. In principle, I cannot quarrel with any of these recommendations because no proposal is made therein which has not been made many times in the past. If I were inclined to view this report of the President's cabinet committee on small business with any reservations whatever, it might be from the point of view that if it had been made with sincerity and acted upon any time in the past three and one-half years, small business would unquestionably be in a very much healthier position today. Please, however, do not misunderstand me. The small businessmen I know have always been grateful for small favors, and I am sure they would rather read a report on their problems every fourth election year than to have no help at all.

NEED IS FOR ACTION: When I said a moment ago that the federal government should develop a posi-

tive program to remove some of the natural disadvantages under which small companies labor today simply by reason of their size, I certainly did not have in mind the appointment of committees, the holding of conferences and the issuing of reports accompanied by carefully contrived publicity fanfare. In this day and age, I do not think anyone will be taken in for long by that type of window dressing. What is needed, desperately needed, if you can credit the stories told by struggling small businessmen, is an *action* program put into operation at the earliest possible moment which will combine the best thinking of the legislative and executive branches.

Where, you may ask, would such a program start? Personally, I would give top priority to easing the tax burden of our smaller corporations. The need for a change in the corporate income tax law is very clear. The heads of many small corporations have told me that their principal trouble in operating their businesses is their inability to acquire and retain the funds necessary to keep the business going and growing, growing as it must to survive in an economy which has become as competitive as ours.

This seems so obvious that during the last session of Congress I introduced a bill which would reduce the income taxes of all corporations earning less than \$375,000 annual net income, a group which constitutes almost 98 per cent of all corporations. Businessmen themselves have convinced me that so long as the federal government demands 30 per cent of a corporation's profits up to \$25,000 and 52 per cent of all earnings above that amount, the growth of many potentially worthwhile businesses will be stunted.

In essence, my bill would impose graduated rates ranging from 5 per cent on the first \$5,000 of taxable income, up to 55 per cent on all taxable income over \$100,000. This would result in a tax saving of more than 83 per cent for all corporations with less than \$5,000 annual net income, an income category in which are to be found 47 per cent of all corporations. Although my tax proposal would not have entailed any loss in federal revenues, it was not acted upon during the past session of Congress. I plan to introduce this tax relief bill again next year and I have reason to hope that under certain circumstances which may then prevail its chances of passage will be more favorable.

After taxes, I am inclined to the view that under the current stringency of the credit situation, sound small businesses require easier access to credit. There is

little doubt that the brunt of the tightened credit market is borne by small and medium-size companies. Back in April, Standard Factors Corp. of New York concluded a survey covering 727 manufacturers in 33 major industries and 127 banks. The study indicated that most companies with from \$5,000 to \$25,000 net worth have lost their bank connections in the past year. On the other hand, only about 12 per cent of the companies with net worth of from \$100,000 to \$500,000 lost their bank lines in the same period. Those concerns worth in excess of \$500,000 were found to be unaffected by the current tightness of credit.

TIGHT MONEY SIGNS: Another indication that business is finding it increasingly difficult to borrow money is shown in the fact that the Small Business Administration in Washington has made two and one-half times as many business loans during the first eight months of 1956 as it did during the first three quarters of 1955. Then again, the face value of the 1956 loans was over twice as much as the value of the 1955 loans. Also emphasizing the tightness of the private money market, the Small Business Administration found that 58.6 per cent of all loan applications qualified for approval during 1956 to date, compared with 39 per cent approved in 1955.

The unfavorableness of the money market, I realize, is impeding larger corporations as well as hurting small business. Only last week I noticed in the *New York Times* that one of the largest meat packers, a company with an illustrious name in your industry, indefinitely postponed plans to offer \$20,000,000 of debentures because conditions were not satisfactory for such a security issue. That in itself is an eloquent side light on what difficulties much smaller companies in need of credit are experiencing.

Everyone realizes, I believe, that the Small Business Administration is only an adjunct to the regular banking and credit sources of the nation and that the SBA will never account for more than a very small percentage of the loans extended to the small businesses of the United States. To repair this deficiency and to make capital more readily available to soundly managed small and medium-size companies, I have made two legislative proposals. The first would establish capital banks to make equity capital available to small firms; the second calls for creation of an FHA-type program for the insurance of loans to small businesses under the supervision of the Federal Reserve Board. I do not advance these proposals as being the final solution to the credit problems of our small business community, but at least they might form the starting point for the type of action program in behalf of small business which is needed.

The third point of any effective program to aid small business would involve strengthening our defenses against the illegal use of monopoly power and at least slowing down if not stemming the current floodtide of corporate mergers, many of which undoubtedly are tending in certain industries to create monopoly conditions. The least that should be done in this field is to give the Department of Justice and the Federal Trade Commission authority to ask industry to provide advance notice of intentions to merge so that the govern-



A. H. HORMAN, Horman's Meat Co., Marshall, Mo., and Fred Ohse, Ohse Meat Products, Inc., Topeka, Kan., study a convention program to determine what comes next.

ment may determine before a merger is consummated whether or not it illegally tends toward monopoly.

WOULD REQUIRE NOTICE: Again, during the last session of Congress I introduced a bill which would require such advance notice. I did this because of my belief that government agencies of proper jurisdiction should not have to rely on obtaining information about matters of such vital importance to the national economy from reading the newspapers. In addition, any



LYLE EVERSE, Holland Meat Co., Holland, Mich., is catching up on his labor news.

meaningful small business program must assure small manufacturing establishments and suppliers a fair share of federal purchases. Even the President's cabinet committee on small business recognized this need, for its fifth recommendation stated: "That the President arrange for a comprehensive review of procurement policies and procedures of all departments and agencies . . . with a view to facilitating and extending the participation of small businesses in work on government contracts."

Most of us, I believe, place more faith in performance than we do in promises. The fact of the procurement problem is that the share of small business has substantially declined in the past three years. For instance,



CONVENTIONEER is almost down on his knees at the end of the first day with four more days of meetings to go.

in fiscal year 1956, the Department of Defense spent a total of \$17,750,000,000. Small firms were awarded 19.6 per cent of the net dollar value of these awards. Yet in fiscal year 1954, small companies competed successfully for 25.3 per cent of military purchases.

It may well be that the committee's proposed "comprehensive review of procurement policies" will reverse this downward trend, but I am more inclined to think that more than just a "review" may be required. When you stop to consider that small firms comprise more than 90 per cent of all business concerns, it would

not be unreasonable to insist that purchasing agencies of the executive branch place at least 25 per cent of their orders with qualified small firms. If the small business share of defense contracts continues to shrink at the rate which has prevailed during the past three years, Congress may be called upon to step into the procurement picture and specify by legislation an exact percentage of the total government purchases below which the share of small business shall not fall.

Any effort to summarize the point of view about our national economy which I have tried to put before you today would have to stress my uneasy feeling that the American economy seems to be in danger of losing its traditional balance. Until recently, there always seemed to be ample room for big and small business to exist side by side, each making its individual and valuable contribution to our economic life. And do not think for a moment that any of us who are concerned about the future of small independent business are unaware of what America owes to its large mass producers.

But, by the same token, where will we be should the day ever come when the relationship between big and small business is so out of balance that it just is not possible for small enterprises to exist profitably in many major fields of business endeavor? For let there be no mistake about it—in industry after industry the Packards and the Studebakers are being driven to the wall.

NEED SPORTING CHANCE: It has never seemed inevitable to me that there should be no room in our vast economy for the small and independent businessman. After all, the more than 4,000,000 of them constitute the foundation of our free enterprise system. They have played a major role in the development of our country. All that is needed to maintain the traditional balance between our largest corporate enterprises and our millions of small enterprises is a little wisdom, or if you prefer, common sense, exerted at the national level. No small businessman I have ever talked with wants to be pampered. But all do want a sporting chance to make a go of it; they do want the rules of fair competition observed, and they do not want the helpless feeling that the cards are stacked against them.

I believe that the role of government may be the decisive factor in maintaining the balance between all elements of our national business community so that America can go forward with the strength that it must have to combat the forces of evil abroad in the world today. Instead of merely talking about it, we can take positive steps to combat the undue concentration of economic power. We can discourage those methods of unfair competition against which smaller businessmen cannot protect themselves. We can see to it that our vast funds of technical knowledge and management skills are made available to the operators of small enterprises. We can lighten taxes and ease credit.

Yes, where there is a will, there is a way. The more than 4,000 meat processors which comprise your own industry are no strangers to the benefits to be derived from a freely competitive method of doing business. Whether we as a nation meet the challenges of the future at full strength will depend in large measure on our ability to maintain and foster throughout our entire economy that hard but clean competition which is, after all, the essence of free enterprise.

New Stunning Tool



C. H. ESHBAUGH, assistant general superintendent of Swift & Company, describes the Remington instrument, tells how it works, and reports the findings of the AMI committee on improved methods of livestock slaughter.

THE COMMITTEE on improved methods of slaughter of the American Meat Institute, together with representatives of the American Humane Association, have been working for a considerable time as a joint committee to improve methods of handling food animals. In one early meeting of the committee, John C. Macfarlane of the Massachusetts Society for Prevention of Cruelty to Animals reported that he had been working with the Remington Arms Co., and he suggested development of an improved stunning instrument, either bolt or impact type, with a magazine to enable faster handling in use. Based

on considerable previous experience with the penetrating bolt, the committee suggested that developments be concentrated on a mushroom head, non-penetrating impact type of instrument. Experiments with early models indicated difficulty with magazine loading, and it was temporarily abandoned, but we have been assured by Remington Arms Co. that further work will be done on magazine-equipped tools. The present tool is powered by a blank cartridge, which effectively stuns nearly all animals with one blow if it is accurately delivered. There is no penetration of the skull or the hide; hence, no loss of value of hide.

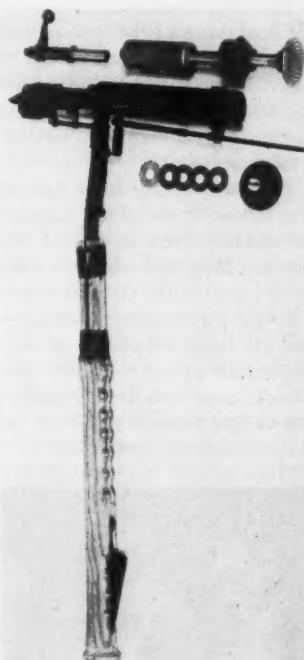
In order to improve accuracy in contacting a moving head, the joint AMI-humane committee suggested that the pistol design with resulting one-hand manipulation be modified by mounting the instrument at right angles to and on the end of a short handle to permit the

operator to use two hands. Further, in lieu of a trigger to be pressed by the finger of the operator, the committee suggested that the trigger be placed alongside the mushroom head to be actuated by contact with the head of the animal. With this design the operator may swing the instrument (with both hands) through a short arc with automatic discharge as the trigger touches the head of the animal to be stunned.

As a result of the efforts of Remington, counsel with representatives of the industry with their background knowledge of practical application to operations, and suggestions from representatives of the American Humane Association, the instrument was developed after extensive trial and field testing.

Its satisfactory operation is due to a buffer system inside its barrel, which absorbs the recoil from the power charge and will stop the piston in its forward motion if the stunner is accidentally fired. This buffer was recently developed for another purpose and was available for use in the stunning tool. Its discovery has made possible the present stunner.

This tool is single-shot, bolt-action, rim-fire. It weighs 8¾ lbs., is 30 in. long, with an 18-in. barrel assembly. It is identified as Model 411. It is designed to be handled in the same general manner as a hammer, but its power is derived from a .22 caliber blank cartridge, which makes it possible to hold it just above the animal's head and



discharge its power load cartridge by contact of a protruding trigger with the animal's head.

The blow is delivered by a mushroom-shaped head or knob with a force greater than that of a full swing 6-lb. hammer blow. Because of its short travel—about 6 in. is sufficient—it can be placed accurately with much less effort. Its handle corresponds to that of a hammer so that a man can readily adapt the new tool to the stunning of cattle. Much less physical effort is required. All external parts of the tool are dark in color to avoid reflection of light which might attract the attention of the animal which is undergoing treatment.

For best results the face of the mushroom knob should be held parallel to the surface of the head to insure against a glancing blow. The center of the knob, not the trigger, is the effective point of contact for stunning and must be properly placed. The effectiveness of the blow will depend, first of all, upon its proper placement, just as with a hammer. It has been shown that with careful handling the number of blows per hundred animals can be materially reduced.

The degree of reduction will depend on the skill of the operator and the type of cattle being stunned. It is impossible to give an average figure because of great variation in both skill and animal characteristics. Many operators prefer the new tool, and there is good reason to expect good employee reaction and material improvement in its use.

The incidence of brain hemorrhage is comparable to that following use of the hammer. Skull fracture occurs infrequently because of the larger area of contact. A glancing blow may result in a small fracture corresponding to a part of the circumference of the mushroom head.

At the present time cartridges of only one size power load are being supplied with the tool. Use of a heavier load results in much greater brain damage. More work is being done with heavier loads, but there is still a question of the possible reduction in the life of the tool if heavier loads are used. Lighter loads can be used in the



A group of officials seeking to improve slaughtering methods in meat packing plants examine the new Remington stunning instrument. Left to right are Rutherford T. Phillips, executive director, American Humane Association; Dr. M. R. Clarkson, deputy administrator, USDA Agricultural Research Service; C. H. Eshbaugh, chairman of the AML committee on improved methods of slaughter, and John C. Macfarlane, director of the livestock conservation department of the Massachusetts Society for the Prevention of Cruelty to Animals.

Dr. M. R. Clarkson, deputy administrator of the USDA Agricultural Research Service, is shown by a meat packing plant supervisor the proper handling of the new Remington stunning instrument.



present tool, but are not indicated for cattle. Ordinary blank cartridges must not be used in this tool.

The stunner is a powerful instrument and requires care in use. It should not be fired against immovable objects, such as posts, walls, or floor, for the force of the blow will produce an excessive recoil in the tool and may damage its moving parts. Obviously, it must never be discharged so that the blow is delivered to any part of a man or there may be serious injury. Safety guarding is provided for regular use in that the safety grip near the butt of the handle must be depressed by the grip of the operator before the trigger shaft can contact the release mechanism of the hammer which fires the cartridges.

A hanger should be provided for the tool when it is not in use, and it should be returned to a safe storage place at the end of each day's work. When in use, cartridges are carried in pockets of a canvas apron worn by the employee using the tool. At the end of the day they should be locked in a safe dry place.

The tool requires care in handling to avoid damage and needs a minimum of regular attention. At the end of each day's use the muzzle cap should be removed and the entire piston shaft assembly should be withdrawn from the stunner.

The shaft should be hung overnight to allow drying of the buffer assembly parts and should be replaced just before use on the following day. Fine gray ash on the interior surfaces should be removed with a brush having strong fiber bristles.

Excessive polishing of the interior surfaces must be avoided since the close clearances of moving parts may be damaged. The interior of the barrel should not be oiled, although a drop or two of oil should be placed on the piston shaft where it passes through the muzzle cap to insure free movement. No oil should be allowed to contact the materials making up the buffer.

Preliminary work has been done on stunning calves, lambs and hogs with this tool. Calves require a much lower power charge than cattle, and it will vary with the weight and age of the animal. Minimum work has been done on lambs. Preliminary work indicates that hogs of about 150 lbs. and lower weight can be stunned satisfactorily, but there is serious hemorrhage in the brain.

Heavy hogs are very difficult to stun with this tool. Further work is being done on all three species, and it is hoped there will be definite results soon.

The tool sells at this time for \$220. Cartridges are about 23¢ each in lots of 100,000. Representatives of the manufacturer across the country will carry repair parts and power load cartridges and will be in position to service the tool. If requested, Remington will send representatives to familiarize users with the tool.

Better Pigs, Better Pork



HOW OHIO STATE swine evaluation program is helping farmers produce meat type hogs with more salable pork is described by W. H. Bruner, extension specialist in animal science and marketing of Ohio State University.

I AM GLAD to tell you something about the Ohio swine improvement program. Several other corn belt states have similar programs in operation. The main purpose is to produce red meat economically.

I would like to discuss briefly the objectives, procedure, and certification standards of the Ohio program.

The Ohio improvement program was developed by breeders, commercial producers, and others associated in the industry and is carried out through facilities of the meats laboratory and the swine evaluation station of Ohio State University. It is supervised by the Agricultural Extension Service in cooperation with the Ohio Agricultural Experiment Station and a state advisory committee.

It is a selecting program. The main purpose is to aid in selection and recognition of foundation stock from Ohio herds that will improve the efficiency of production and the market value of the great Ohio hog crop.

Selection of this foundation stock is made on the basis of records that indicate: (1) absence of inherited defects; (2) prolificacy; (3) nursing ability; (4) rapid growing and gaining ability; (5) efficiency of feed utilization; (6) superior meat-type carcass; and (7) soundness and style.

The official governing body is the Swine Improvement Association of Ohio. This association was organized and incorporated under the state laws of Ohio in 1948. Since 1948 the program has been on a state-wide basis. Hog

producers nominating litters automatically become members of the association.

During 1954, Ohio State University constructed the Swine Evaluation Station. The plans for the station were developed by a committee of hog men working with University and Experiment Station personnel.

Objectives of the swine evaluation station are:

1. Provide 108 pen stations where breeders may have two pigs per litter fed under uniform conditions of feeding and management.
2. Determine the feed efficiency, rate of gain, and carcass value of prospective breeding litters through records secured on two pigs per litter.

The procedure of station participation is as follows:

1. Breeder nominates litter within ten days after farrowing on prescribed form and mails to Secretary of the Association along with a \$2 fee.
2. Weight standards of 21, 35, and 56 days prescribed by the appropriate breed association apply.
3. Select representative pair of pigs (barrow and gilt

TURKEY WAS well represented at the convention by this group of packinghouse officials (left photo) touring under the guidance of Richard Swain, I.C.A., Washington, (second from left). Others in the party are Nevzat Ozgen, E. Krem Barlas, Turhan Akarca, Cihat Renda, and Ekrem Yesilada. **IN RIGHT PHOTO:** Mrs. and Mr. Eduardo Cintas and Ricardo Rodriguez of Cia. Empacadora Aldecoa, S.A., Havana, Cuba, are much closer to home.



if possible) per litter that have met weight standards. (Breeder, county agent, vocational agriculture teacher or appointee weigh and make selection.)

4. Pigs entering station must be treated for cholera and accompanied by health certificate. (Inspection of herd by local veterinarian.)

5. Male pigs should be castrated.

6. Breeder delivers pair of pigs to station by or before they are 60 days of age.

7. Entrance fee for a pair of pigs per litter is one pig. The other pigs are purchased at $1\frac{1}{2}$ times the market price times the average weight of the two pigs.

8. Pigs are self-fed standard ration and started on feed at 63 days of age. Starting and finishing rations carrying approximately $15\frac{1}{2}$ and $13\frac{1}{2}$ crude protein, respectively, are used.

9. The pigs are weighed individually at bi-weekly intervals.

10. The test ends as the pigs reach 210 lbs. in weight.

11. Both pigs are slaughtered at Ohio State University Meats Laboratory and detailed carcass data obtained.

Certification standards (certification of record on remaining boars and gilts in litter):

1. Feed standard is 370 lbs. of feed or less per 100 lbs. gain while on test.

2. Each pig of the pair must weigh 200 lbs. at 180 days.

3. An average primal cut yield of 48 to 49 per cent is certified Ohio Commercial with neither pig cutting less than 47 per cent.

4. An average primal cut yield of 49 per cent and over with neither pig cutting less than 48 per cent is certified Ohio Superior.

5. Certifications are issued by certification committee selected from the membership.

6. Data on certified litters are released, periodically, giving breeder, breed, litter index number, rate of gain, feed utilization, and carcass value.

Analysis of results of 311 litters indicate:

1. Swine breeders are interested in improving production efficiency and carcass value of prospective breeding stock. This statement is based on the fact that during the past four breeding seasons, 161 different breeders have nominated 853 litters in the Ohio swine improvement program.

2. Commercial hog producers are interested in purchasing and paying a good price for boars out of litters with good records as to feed efficiency, rate of gain, and carcass value.

3. When we study the doing ability of pigs out of Certified Superior litters as compared to pigs out of litters that were too fat to certify, we find:

	121 Superior	36 Non- Cert. Too Fat	Adv. of Sup.
Litter Size*	11.1	11.4	...
Pigs raised to weight†	9.6	9.8	...
Lt. wt. at 35 days (lbs.)	187.1	177.1	10.0
Wt. per pig at start of test	41.6	40.4	1.2
Feed req. per 100 lbs. gain	336.4	354.2	17.8
Age at approximately 210 lbs. (days)	163.1	162.4	...

*Good Prolificacy.

†Good Nursing Ability.

4. Pigs require much less feed per 100 lbs. gain during growing period (63 days of age to approximately 120 lbs. weight) than they do during finishing out period

EBBE AABYE JENSEN, Tulip Brand, Vejle, Denmark, (left) who is touring the U. S. for a month to study packing-house methods, pauses to study AML program. Acting as his convention guide is Ove Madsen of the American Meat Institute Foundation.



(120 lbs. to approximately 210 lbs. weight). This difference for all pigs in the three crops is 94.3 lbs.

5. Further study of doing ability indicates that pigs out of Superior litters use less feed per 100 lbs. gain during the finishing-out period than do the over-fat pigs. From 120 lbs. to 210 lbs. the Superior pigs required 378.9 lbs. of feed and the over-fat 404.5 lbs. per 100 lbs. gain (25.6 lbs. difference).

6. Pigs from gilt litters are lighter in weight at litter weighing time and are older at 210 lbs. Individual pigs in gilt litters weighed on an average approximately 2 lbs. less at 35 days of age than did pigs from sows. They also weighed approximately 4 lbs. less at 63 days of age and were one week older at 210 lbs. (There were 65 gilt litters and 186 sow litters.)

7. Nine-week weight of pigs accounts for approximately 25 per cent of the factors that determine slaughter age at 210 lbs. This proves again that good care and management of sows during gestation, and of the sow and litter until weaning, pay big dividends. Pigs weighing less than 30 lbs. at 63 days of age require 30 days longer to reach 210 lbs. as compared to pigs weighing over 50 lbs. at 63 days of age.

8. Analysis of data to date indicates some differences in performances of barrows and gilts both as to production and carcass value. Barrows have a tendency to reach 210 lbs. at younger age than gilts, have more back fat, shorter carcasses, smaller loin eye and register lower yields of the primal cuts.

9. Carcass data of the pigs out of Superior litters compared to the over fat:

	Superior	Over Fat	Difference
Fat back (in.) 3 measurements	1.57	1.76	.19
Carcass length (in.)	29.98	29.4	.58
Loin eye (sq. in.) 10th rib	4.10	3.24	.86
Primal cuts of live wt. (pct.)	50.00	46.34	3.66
Fat trim of live wt. (pct.)	15.22	18.91	3.69

10. Breaking down the primal cut yield we find the pigs out of Superior parents yielding more in the hams, loins, and shoulders and less in the bellies and fat trim.

Adjusted Live Wt.—Superior pigs 204.41 lbs.

Adjusted Live Wt.—Over-fat pigs 204.1 lbs.

	Superior lbs.	Over Fat lbs.	Difference lbs.
Ham	29.75	26.74	+3.01
Loins	23.58	20.35	+3.15
Shoulders	26.94	23.80	+3.14
Bellies	22.83	23.80	-.97
Fat trim	31.17	38.87	-7.70

In summary it can be said that genuine meat-type hogs with inherent ability to produce muscle are efficient and economical producers of quality lean pork.

Meat Hog Comes Slowly



IOWA HOG PRODUCER N. A. Wilson believes multiple farrowings will solve some of the problems which face the progressive raiser of swine.

WE FARMERS of the Midwest are, at the present time, "enjoying" the best advertised agricultural recession on record. I use the word "enjoying" advisedly for we are certainly not prosperity-intoxicated in our area. Although we have dwindled to only 12½ per cent of the total population of this great nation, we are being wooed by both political parties with all the zeal of Elvis Presley.

I'm not a psychologist. However, I have a 16-year-old daughter whose affection knows no bounds when she wants a new dress, and I am relegated to a much lower regard between new dresses. It now seems that each political party would like a new dress. Even though we farmers are a dwindling minority, we evidently are still considered politically potent, for we may again hold the decisive vote. This makes us much more important politically than our reduced numbers would indicate.

We farmers know how to figure, read and think—and we do a lot of each. By the time November 6 rolls around we will have cut through the political fog. The *sense* will have been sifted from the political nonsense, and *confusion* will be transformed into clarity. We are well aware that in farm areas politicians from both parties see the farm program as a money-baited hook for votes. The "prophets of doom" and the "fair weather boys"—those who "view with alarm" and those who "point with pride"—have all had their day as far as we are concerned. We know, in the long run, farm prices will be determined by economic realities.

In our rapidly changing farm operations, we have found that continuous learning and adjusting are a must. Farmers, packers and even consumers to some extent have long appreciated and recognized differences in grade of market cattle, but hogs have always seemed to be different. Too much emphasis has always been attached to market weights of hogs and too little to the more important factors, such as type, finish and quality. We producers have never been able to figure out just why 5 or 10 lbs. difference in weight should make a 25¢ or 50¢ differential in price or why, on some occasions, a runt or cull should bring a higher price than a good hog. Weight was the only explanation. For the past several years the production and development of the meat-type hog has been encouraged and stressed by all agricultural colleges, farm magazines, meat processors and by most of the progressive swine producers.

You of the packing industry know that the meat-type hog yields more of the right cuts of leaner, more fully-muscled meat, without increasing your stocks of lard. The retailers tell us that Mrs. Housewife refuses to buy fat pork anymore and that cuts from a meat-type hog are all that can be sold in any quantity. We producers have discovered that the meat-type hog can be brought to marketable weight and grade in a shorter time and in many cases on less feed.

Then why aren't more of the desired meat-type hogs marketed today? I am informed that only about 20 per cent of the marketed hogs come under this category. Why?

WHO IS AT FAULT? You processors have expressed your desire for this type of hog; the retailer swears that he can sell nothing else in the pork line; we producers are convinced that we are on the right track. Where have we fallen down and who is to blame? Probably some of the blame can be laid at your door and some can be laid at ours. The competency with which you as packers and we as producers meet our respective responsibilities may have far reaching and decisive results in speeding up this transformation to meat-type production.

Today we have two kinds of hog producers. One is the "Old Boy" who still thinks "pigs are pigs" and that a buyer with a sorting pole is the devil himself. He wants to sell all of his hogs "straight across," and he's sure that nobody can tell the difference in any hog after it is butchered and hung on a hook. In far too many instances this "Old Boy" is permitted to prove his point and be right. In most cases, this kind of producer feeds very little or no protein supplement and, as a result, it takes him longer to bring his hogs up to market weight. Consequently, in areas where the one- and two-litter system of production still prevails, his hogs are ready for market at a time when your hog buying departments are having difficulty securing enough hogs to keep the killing crews busy. This situation puts the "Old Boy" in a better bargaining position than any of us "meat-type producing wise guys."

Practically all of our hogs were marketed at six months of age because we are efficient, progressive producers. We are the ones trying to keep in step with technical advances, and I assure you that there are many, many times when we feel that all the technological advances have benefited everyone *but* the progressive farmer.

In this hog producing game some of us have found

that, if you are too far ahead of the rank-and-file procession, you are just as much alone as though you were behind it. I am afraid that one thing holding back the speed of conversion to meat-type is a general feeling among producers that you packers are not willing to pay them the price differential they deserve for the expense and effort expended by them to supply you with the kind of product that will keep both you and them in the pork business.

After a careful analysis of the production and marketing situation, it appears to me that many marketing problems can be solved by the one thing that may be the salvation of the progressive producer—multiple farrowing. If we can attain enough participation in this system, it will insure an even flow of hogs being marketed the year round and will also eliminate the bargaining power of our friend, the non-progressive "Old Boy."

But all is not roses for, while solving some marketing problems, multiple farrowing also adds some production problems. A few years ago it appeared that the pig hatchery would revolutionize hog production. Some of us progressive boys, much to our sorrow, got too far out ahead of the procession on that one. But much valuable experience was gained from the pig hatchery business that will help us to overcome many of the obstacles in multiple farrowing. In my opinion the limiting factor is sanitation. If we producers can lick the disease angle, then multiple farrowing will, I am almost sure, be universally adopted by the progressive hog producer.

LIVESTOCK MARKETING: It seems that the packing industry has always been much more concerned with average costs than with individual lot costs and values. For years producers were encouraged to sell their hogs "straight across." As a result, your buyers are experiencing quite a bit of difficulty in re-educating the rank-and-file producer.

We producers of meat-type hogs have the choice of selling our hogs on the hoof or on grade and yield. In selling them on the hoof, we take the judgment and ability of a buyer to visualize the carcass of a live hog. It isn't too hard to agree on conformity, length, weight and even thickness of back-fat, but no way has yet been devised to visualize very accurately the size of the muscling in the loin eye, which is the most important requirement.

In grade and yield marketing of live hogs, there is a feeling of distrust among us producers that needs to be eliminated. All of us are sure that we raise the best hogs in the world. Then when we get a yield sheet back showing us that our hogs didn't quite measure up, we are sure

that the "damn packer" took us. Another problem, the meatless hog, is a product of our lack of knowledge and of our hurry to make the change from the lard-type hog. We are eliminating him, but he is still around and will be for some time yet.

In the marketing of cattle we do not have the problem of grade designation to settle. But we do have periods of light and heavy marketings—peaks and valleys that should be leveled out to insure a safer enterprise. During the past 15 years, many mistakes in the feeding of cattle were covered up or hidden by the rising price cycle. With the break in the cattle market during 1952 and 1953, these mistakes in feeding began to show up. Feeders who were adequately capitalized, operating economically and raising their own feed requirements, might not have made any money, but they were able to weather the storm of the price decline and have not been forced out of business although the operation has been far from lucrative.

As the sharp revision in cattle prices developed during the last 60 days, our operations have quickly changed from a losing enterprise to a profit-making program. Because of this change, feeder cattle prices have risen above levels of a year ago. That was a time, as some of us know, when a lot of cattle for feed lots were bought too high. This again proves that "the inalienable right to lose one's shirt" is still highly cherished by us producers.

MEAT ADVERTISING: We producers know that the coming year will see continued large supplies of meat available, and we know that an accumulation of unused surplus meat will lessen the buying power of all of us. We are also well aware of the part the packing industry has played in advertising meat products. You as processors, our friend the retailer, and we as producers should know that we must all pull together as a team. Anything that one member does to improve the product and increase efficiency is helpful to the others.

It appears to me that we should exert every effort to add another member to our team, at least on a part-time basis—the operator of our public eating establishments. If it is true that one-fourth of the food consumed in this country is sold through the food service industries, then we should not lose any time in getting him to join our team. One thing that hurts the effectiveness of all meat advertising campaigns is the excessive prices charged consumers in so many of our restaurants.

Last spring I attended a meeting of producers with your committee of producer relations. It was reported at this meeting that a group of farmers ran a survey in this city on the prices charged for restaurant meals. They found that a comparable steak cost them the same this past winter that it did one year ago when cattle were selling for \$10 more per cwt. They inquired as to the reason and were told by the restaurant operator that his cost from the distributor was the same as the previous year. These men accepted as truth the word of the restaurant operator and pursued the issue no further.

We all know that marketing margins went up during this period, but it would take an extreme stretch of the imagination to believe that anywhere near that difference could be charged to increased expense of marketing alone. I'm convinced that this restaurant operator was guilty of gouging the public, and I'm afraid that after these men related their findings to their fellow producers



BEEF EXPERT Hilton Briggs at the podium during the livestock session, while chairman G. B. Thorne of Wilson & Co., and speakers W. H. Bruner of Ohio State University, N. A. Wilson, an Iowa hog raiser, and C. H. Eshbaugh of Swift give their attention.

that the "damn meat packers" really caught the devil.

We producers, too, have a position to play on this meat team, and we certainly aren't going to get anywhere by allowing the packing industry to be blamed unjustly. We must all work together to get this hijacking stopped.

NEED FOR UNDERSTANDING: There is a need for businessmen to understand the predicament of farmers during periods of economic downturn. We producers feel that you people in the packing industry do not realize the extent to which recessions fall upon agriculture with far more than a fair share of the burden of price declines. Just prior to the major depression in the early '30s, no one, outside of agriculture, seemed to realize the plight of the farmer. But when the whole economy entered into the great depression, the nation became aware of the importance of agriculture to the welfare of all our people. One thing industry needs to remember is that the effects of a pinch in net farm income will be felt by industry more and more the longer it continues.

On the other hand, there are many things we farmers need to understand. We are inclined to make complaints about the margins or spreads between what we receive and what the consumer pays in the market. To most of us there is something vague and unexplained about processing and marketing.

I quote from an article which appeared in the open forum section of the *Des Moines Register*:

"In order not again to take 10c for their hogs when

wedge between the packing industry and the producer. There exists a general feeling that you took advantage of the situation and we paid all the freight.

TELL YOUR SIDE: You need to tell your side of the story and you need to tell it well. Before there can be much progress in a smooth-working relationship between packer and producer, the producer must come to a better understanding of the economic processes that affect his commodities after they have left his hands. In the fast-moving pace of our American progress, the packing in-



AMI VICE CHAIRMAN
John F. Krey, Krey
Packing Co., St. Louis,
with Institute director
John H. Bryan, Bryan
Brothers Packing Co.,
West Point, Miss.

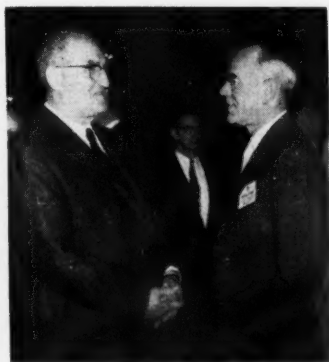
dustry must be sure that necessary attention to supplier relationship is not lost in an impersonal shuffle.

Great new vistas are continually opening before us, and they are challenging.

We have made much progress in the development of the meat-type hog and now have a better understanding of how to build muscle instead of fat—and science continues to show us new ways of doing it more economically. The program of multiple farrowing appears to be sound. It will take time to accomplish it on the scale desired, but I am sure the results will prove to be worthy of our every effort. Packers and producers both need to cultivate a clearer understanding of the ways to market livestock, and the problems that need to be overcome.

Advertising of meat products must be enlarged and we producers need to play a greater part in the program. We need to remember that we are also consumers; by our own use and praise of our product, its popularity will be increased.

Packers and producers must both admit that they have always looked at each other with suspicion and through "clouded glasses." Let's remove the suspicion and wipe off our glasses! Let's stop preaching teamwork and start practicing it! Only through teamwork will our productive capacities be realized.



H. H. COREY, chairman of the board of Geo. A. Hormel & Co., Austin, Minn., chats briefly with Wilfred C. Cooper of Frederick B. Cooper Co., Inc., New York City.

there is not a surplus and when the consuming public's income warrants a fair price to farmers for their livestock, the producers must organize to protect their interests.

"This can be done by forming a federated or regional marketing co-operative. In this way they can retain control of the supply and if this procedure doesn't get parity for the producer, then he may find it necessary to own and operate the processing plants. . . .

"The consuming public is paying too much for meat when you consider the prices or the amount received by the producer for his hogs and cattle. Something should be done to narrow the spread between the price the consumer pays and the price the producer receives."

I am aware that "finding it necessary to operate the processing plant" and "knowing how" are two different things. I merely quoted this article because it is typical of the statements being made by producers throughout the Corn Belt. Ten-cent hogs certainly did drive a deep

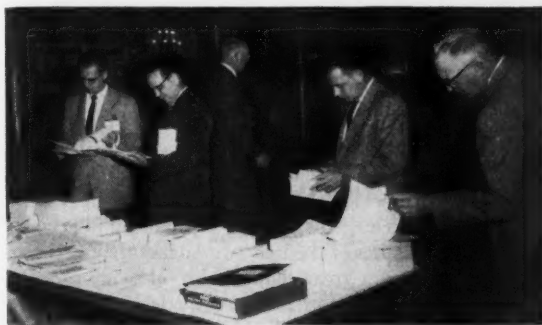


TABLE OF AMI literature attracts much attention from packers.

More Red Beef Needed



Dr. Hilton Briggs, University of Wyoming, tells how breeding and bull testing are being used by colleges and experiment stations in the search for meat type cattle.

ON THE GOLDEN anniversary of the American Meat Institute it is extremely appropriate to think about the production of more red meat in cattle. The supporting members of your organization have assumed the important responsibility of moving meat from the hoof to the housewife.

That lady may not change her mind every day, but she certainly has changed her ideas on meat in 50 years. The modern housewife definitely has indicated that she is more interested in lean meat than she is in fat.

Several of our land grant institutions have been trying to ascertain just what the housewife does want in the beef she purchases. I want to confess that these preliminary results have been just a bit startling to some! Washington State College made a study in which it found that the housewife discriminated against the more highly finished grades of beef, even when priced the same.

Our workers at Wyoming and Colorado A. and M. College joined together and made a comprehensive study in the Denver area, and found that the housewife preferred Good beef to Choice, even when she did not see the external fat. This indicates that she even objects to very much marbling fat. Oregon has also been making some studies in which the research workers have been using three-dimensional pictures; they, too, are finding that the housewife is getting mighty skeptical about excessive fat.

Essentially, there are two approaches that we might take to this problem of acceptance of meat by the housewife. We might try to teach her what we think she should have. Another approach is to give her what she wants. There is little doubt in my mind as to which approach is more likely to buy a new stove for the producer, or pay dividends to the stockholders of processing companies.

The past decade has seen more emphasis than ever before placed on the "red" meats. At least two classes of meat-producing animals have been considerably changed by that pressure. We are all aware of the great change that has taken place in poultry production and the ready way in which chicken is accepted on the American table—all because the product is produced in accordance with the desires of the lady who makes the purchase.

There has been a great change, also, in swine production. A determined effort has been made to get a more acceptable product and to eliminate excess lard that the market will no longer absorb. Certainly improvement in

beef production has not kept pace with the "revolution" in poultry and pork production. Some might argue "why worry," because we are eating beef in greater quantity than ever before. It is true that our per capita consumption has gone up approximately 25 per cent in three decades.

Today we are eating 81 lbs. per person. That is fine, but there are many factors that have contributed to that increase. An important consideration at the moment is that the beef producers and beef processors must watch their competition or they may not be able to hold consumption of America's favorite meat at such a high level.

We should not get the impression that nothing has been done to improve cattle. We have only to think of the large, gobby, over-finished cattle that were marketed at the turn of the century to know that we are producing an animal that is more acceptable than such a beast. Recent releases by the USDA have shown we have been changing the type and quality of cattle that produce America's beef.

The USDA estimates that in the 1920's and 1930's there were two dairy cows for each beef cow. Today there are more beef cattle than dairy cattle. In addition to improving the kind of cattle, we are slaughtering them at younger ages, and more of our cattle are fed to improve their acceptability. Thirty years ago, only about 38 per cent of the cattle ever saw a feed lot while today 55 to 60 per cent are fed before slaughter.

While much has been done, there is little doubt that up to now we have accomplished the easy things in beef improvement. We are now starting on the hard problems.

BREEDING FOR MORE MEAT: Concerted attempts have been made to study the beef producing ability of cattle. Many of the southern states have found that the use of Brahma blood in a crossbreeding program increases the amount of red meat that can be weaned from a cow.

Experiment stations all over the nation have been studying the possible improvement of established beef breeds. The Texas station has conducted an 11-year study at Balmorhea to find out whether the gain in the feed lot is something that can be improved by selection. In all, they have studied the feed-lot performance of 1053 young Hereford bulls sired by 166 different bulls, and of 271 heifers sired by 46 different bulls. Very encouragingly, they found that inheritance explained 53 per cent of the difference found in the gaining ability of cattle.

In other words, sire testing shows great promise. An even more comprehensive project has been conducted by the U. S. Department of Agriculture in its range research station at Miles City, Mont., where the ability of 88 bulls to sire beef has been studied; 635 steers sired by these bulls have been fed and subjected to detailed analysis.

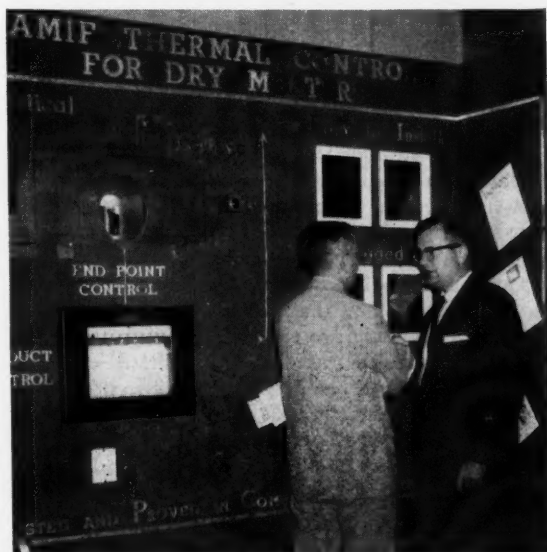
These steers averaged 1050 lbs. at 15 months of age and graded Choice when slaughtered at St. Paul. I think the two most interesting figures are (1) that gain is about 60 per cent inheritable, and (2) *that inheritance accounted for 72 per cent of the difference in the eye muscle of beef.*

Research workers found years ago that the analysis of the rib section was a very good index of the composition of a carcass. Recently, Cahill and associates at Ohio found that there is a correlation of .853 between the area of eye at the twelfth rib and the percentage of meat in an entire carcass.

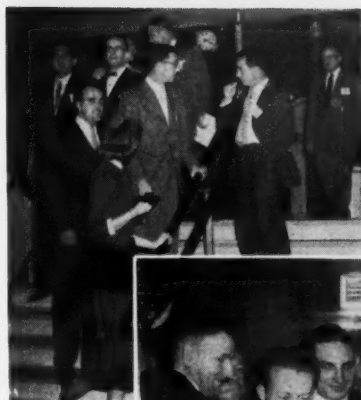
Such studies are giving information considerably beyond what we can see with the eye alone, and it is starting the cattleman in the same approach toward the meat-type animal that the hog men have taken.

Work at Miles City and observations at both Colorado and Texas have indicated that greater length between shoulder and hip may result in a carcass with more red meat. This may reverse the trend in the beef cattle type.

It has also been found that extreme depth of body and size of barrel can be overemphasized in judging the worth of the animal, either in the feed lot or on the rail. This certainly will not come as a surprise to those who have made a careful analysis of the slaughter value of various types of hogs—increased length usually means a greater percentage of primal cuts or more red meat. It is significant that two very outstanding ranches, the Bell ranch of New Mexico and the Coddling ranch of Foraker, Okla., already have made notable progress in breeding cattle with greater ability to gain.



FRANK HALLINAN of Wilson & Co., Inc., Chicago (back to camera), gets the low-down on rendering control from L. Pircon of the American Meat Institute Foundation.



UPS
AND
DOWNS

BY
STAIR
AND
LIFT



Congress passed the Research and Marketing Act in 1946 which gave increased funds to the experiment stations and to the USDA for conducting agricultural research. A portion of these funds has been expended in regional studies and it is notable that three regions—namely, the West, Midwest, and South—have set up regional projects in beef cattle breeding with the explicit aim of improving beef cattle through breeding methods.

In these breeding projects we have found that there is not only a great difference in the ability of cattle to gain, but that there is great difference in the amount of red meat produced. There are many examples of the progress that can result from using bulls that sire cattle with more meaty carcasses.

At the Wyoming station two steers made almost identical gains on the same ration. One of them had an eye with 6.38 sq. in. of lean and 3.38 in. of fat. The other steer cut 10.69 sq. in. of lean and only 2.75 in. of fat. Is there any question from which steer you would rather be served a one-half inch slice of prime rib roast?

(Mr. Schoonover of our staff decided that it was too hard to trace and measure eye areas, so he devised a grid through which he takes his photographs and all he has to do is count a very few squares to take his measurements.)

Our station has found that different sires vary widely in the ability to sire cattle with red meat. Three different bulls sired steers that averaged 7.35, 4.67 and 7.13 sq. in. of loin eye. It can be pointed out further that the sires of the last two groups were fathered by the same bull that sired the first group mentioned.

This is clearly an indication that one son needed a quick trip to the butcher in any beef improvement program where meat on the table was a criteria. The Oklahoma station had two steers that were fed for five months and each gained 2.3 lbs. a day. One produced nearly 50 per cent more eye or red meat than did the other. Many

more such interesting examples of superior production could be reported.

The big challenge becomes, "How can we get this information on the live animal?" It is obvious that when we obtain the information from the carcass we are getting it pretty late, especially on those cattle that would go into a breeding program if we knew how good they really were.

NEW TOOLS BEING TRIED: You may be interested in a few of the new tools that are being used to find out about carcass composition and the amount of red meat in the animal before it is slaughtered. The Oregon station is attempting to make an approach through digestion trials and the study of metabolites.

Preliminary data have indicated that the animal that takes the most protein out of the ration is building proteins into the body faster than the less efficient animal. Some new techniques involving chemicals and isotopes promise to tell us much. Among the aids being tested are Antipyrine ($C_{11}H_{12}N_2O$), deuterium (H_2), and tritium (heavy water).

Their use is still experimental but somebody may find a way to use these tools very efficiently. A most interesting development has been the Somascope which Dr.



NP CAMERA catches intense interest of audience at Monday talks.

Stonaker of the Colorado station, has been using on beef cattle. He is attempting actually to measure the eye muscle of the live beast. What a revelation that tool or a similar measuring device could be in the production of red meat!

NUTRITION AND LEAN: The breeding of beef cattle for greater lean production may have an important ally in improved nutrition. The Purdue, Iowa, and other stations have been experimenting with stilbestrol and have found it very effective in increasing the rate and efficiency of gain without producing a greater proportion of fat.

That must mean that we are producing more pounds of lean on a given amount of feed and in less time. The Oregon station has used testosterone and the work there definitely indicates that protein deposition is improved by the use of this male hormone. That same station has been doing exploratory work with laboratory animals and has found that anything that increases pituitary or thyroid activity stimulates muscle growth, whereas stimulating the adrenals retards protein deposition.

It would appear that we are on the threshold of even

greater progress by using improved nutrition knowledge in addition to breeding programs to increase red meat.

THE JOB AHEAD: It is most encouraging that we have had an increased awareness of the need to produce a greater percentage of lean in beef cattle. Very recently the reciprocal meat conference sponsored by the National Live Stock and Meat Board discussed the meat-type steer. At the next meeting of the American Society of Animal Production the production of the meat-type steer will have an important part on the program.

We should not oversimplify the ease with which we can expect to establish the meat-type steer as the common kind. The production and utilization of cattle in the United States often involves the rancher, the feeder, the packer, the retailer, and the housewife. Let's examine, just for a moment, what some of the problems may be.

The rancher wants cattle that grow rapidly and sell to an advantage.

The feeder must have evidence that meat-type cattle will turn grain economically into marketable pounds. The packer must establish the yield, grade and merchantability of such cattle. The retailer must find the meat-type carcass one that cuts as well or to better advantage than the kind he is now handling.

Frankly, I don't think he will have much trouble convincing himself about that factor when the housewife comes to buy her meat. That brings us down to the last person on the line—the housewife, or consumer; she must find that the beef from the meat-type steer is not only lean, but is also tender and has the desired flavor.

Actually, our chances of getting the meat-type steer in the near future will depend upon the willingness of the housewife to express her preference for it in cents per pound, and the willingness of those on the production line to pass that advantage back to the people who go to extra expense in breeding and producing a more desirable product. If all share the advantages of the meat-type steer in their due proportion we may see it come more rapidly than pessimists feel is possible.

There is another factor that may speed the meat-type steer to reality and that is the change to frozen and pre-packaged meats. I am sure we can all see why Mrs. Jones' buying habits may be a bit different as she walks by an impersonal cold storage counter than when a handsome butcher has a chance to exercise his salesmanship in selling her steak or roast for Sunday dinner.

Many who have stopped to think about the meat-type steer have certain preconceived notions about how the steer can or should be produced.

It is time that we forget preconceptions and start looking for the facts. The facts are that more meaty cattle can be produced and that they can be produced economically. The only two effective incentives to get the kind of production we need are demonstrated efficiency of the meat-type steer and/or a price differential.

That differential might be a "premium" for the meaty carcasses, or a discount on the others. We know the effect that market differentials have had on hog and poultry production. The beef producer has the same human failing of liking to be induced by the profit motive.

A most interesting question is, "Where will we be with the production of the meat-type steer 50 years from now at your centennial?" Let's hope he will have become a reality long before that time arrives.

Little Less Meat in 1957



ANALYST J. RUSSELL IVES of the American Meat Institute looks for a small reduction in next year's meat supply—mostly in pork—but sees no radical changes in near future unless unforeseen factors interfere.

THE TITLE of this year's supply outlook discussion is, "Will Meat Supplies Stay at Record High Levels?"

This is not a far fetched question. The fact that the country has enjoyed a meat consumption during the past two years of more than 160 lbs. per person, makes us prone to forget earlier years when livestock and meat supplies were not so abundant. For instance, only five years ago, in 1951, per capita meat consumption amounted to only 136 lbs. Thus, the subject is timely, and I'll do my best during the next few minutes to shed some light on the question.

THE CATTLE AND BEEF SITUATION: Starting off with the cattle and beef situation, here in summary are the developments this year to date:

Commercial slaughter of cattle and calves through July totaled 3 per cent above a year ago. This increase was due entirely to large marketings of steers, which totaled some 20 per cent, or about 1,000,000 head more than last year. Cow slaughter during January-July was 8 per cent below a year ago, and calf slaughter was 1 per cent less than last year.

The large slaughter of steers through mid-summer was due mainly to large marketings of grain-fed cattle, which through July exceeded a year ago by 18 per cent. However, supplies of these cattle have dwindled

since late July, and August marketings were 16 per cent under a year ago.

Purchases of stocker and feeder cattle have increased sharply since late May. During July and

TABLE 1: BALANCE SHEET OF U. S. CATTLE NUMBER 1950-56

Item	1956	1955	1954	1953	1952	1951	1950
Jan. 1 number.....	97.5	96.6	95.7	94.2	88.1	82.1	78.0
Calf crop.....	43.3	43.0	42.6	41.3	38.3	35.8	34.9
Imports.....	2	3	1	2	1	2	5
Total.....	141.0	139.9	138.4	135.7	126.5	118.1	113.4
Calf slaughter.....	13.0*	12.9	13.3	12.2	9.4	8.9	10.5
Cattle slaughter.....	27.5*	26.6	25.9	24.5	18.6	17.1	18.6
Total slaughter.....	40.5*	39.5	39.2	36.7	28.0	26.0	29.1
Death losses.....	4.0*	4.0	4.1	4.1	4.0	3.9	3.7
Unaccounted for.....	-1.0*	-1.1	-1.5	-1.8	-3	-1	-1.5
Total disap.....	43.5*	42.4	41.8	40.0	32.3	30.0	31.3
Number End of Yr.....	97.5*	97.5	96.6	95.7	88.1	82.1	78.0

* Preliminary estimates, developed from official figures published by the USDA.

August the movement into nine Corn Belt states totaled 86 per cent more than last year. This large movement has continued during September. The makeup of this movement has been largely in the lighter weight cattle and calves, some of which are actually quite thin. The proportion of fleshy steers suitable for a short turn in feed lots is believed to be comparatively small.

Due to the drought conditions which are getting progressively worse, it is reported that the movement from the range states is one to six weeks earlier than last year. However, total potential marketings of

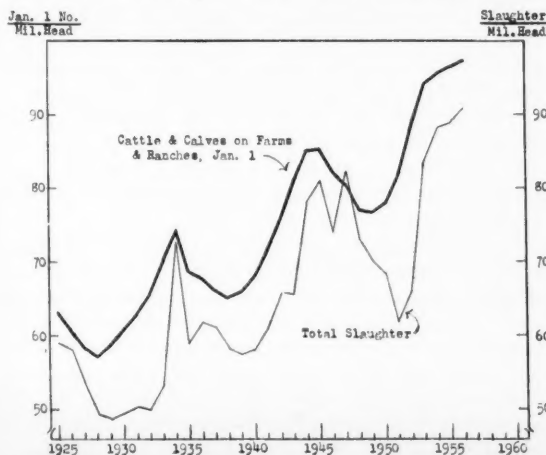


CHART 1: U. S. Cattle numbers and total slaughter.

TABLE 2: COWS ON FARMS JANUARY 1

Region	Dairy Cows			Beef Cows		
	1956	1955	Per Cent Change	1956	1955	Per Cent Change
Northern plains.....	1,721	1,800	-4	4,756	4,242	+12
Central Corn Belt.....	4,444	4,780	-7	3,241	2,714	+19
Southern plains.....	1,285	1,643	-22	5,252	5,030	+4
Delta.....	1,330	1,405	-5	2,202	1,578	+40
Southeast.....	1,091	1,157	-6	2,164	1,604	+35
Mountain.....	794	802	-1	4,434	4,250	+4
Appalachian.....	2,650	2,483	+7	1,429	1,107	+29
Pacific.....	1,441	1,387	+4	1,643	1,453	+13
Lake States.....	5,069	4,974	+2	496	369	+34
North Atlantic.....	3,493	3,663	-5	141	139	+1
Total U.S.....	23,318	24,094	-3	25,750	22,506	+14

stockers and feeders is quite large, and it is likely that the total fall run of these cattle and calves will materially exceed a year ago—even if the drought should be relieved, which would have the effect of slowing up the movement.

There has been some tendency towards shorter feeding periods, and some of the cattle going to the country since June will come back to market as "short-feds" before the end of the year. However, the

number of such cattle is not expected to be large compared with the total feeder movement. This means that the January 1 number of cattle actually on feed, plus those being held as stocker cattle and calves for later feeding, probably will be larger than a year earlier. Meanwhile the number of long-fed, well-finished cattle remaining to be marketed has dwindled sharply.

The substantial up-turn in fat cattle prices since mid-July has been welcomed by cattle feeders and has no doubt given considerable encouragement to the

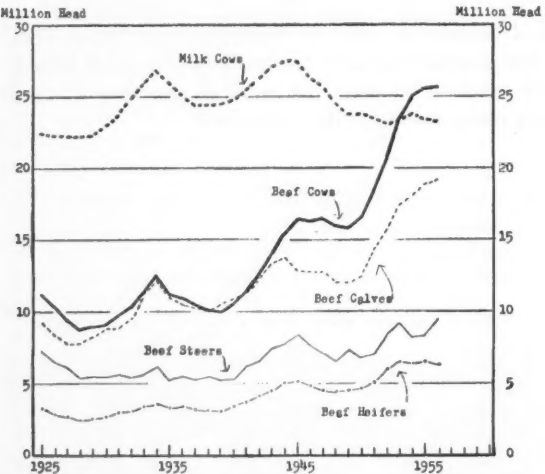


CHART 2: Cattle and calf numbers by classes in farm-ranch inventory on January 1, 1925-56.

purchase of replacement cattle. However, cattle feeders have not been especially bullish on their ideas as to prices, and despite the large volume purchased, costs of the various kinds of feeders have increased only slightly over last year. As of mid-September, the spread between choice steers at Chicago, and the average cost of feeder steers at Kansas City was about \$10 per cwt. compared with about \$5 at this time last year.

Cow marketings have increased seasonally since May and now appear to be running about even with or a little above a year ago. In other words, no severe liquidation has yet developed, despite serious dry

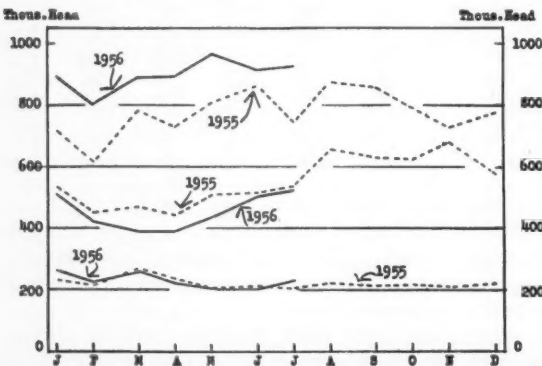


CHART 3: Steers, cows and heifers slaughtered under federal inspection during 1955 and 1956.

TABLE 3: CHANGE IN U.S. COW AND HEIFER NUMBERS VS. FEDERALLY INSPECTED SLAUGHTER OF COWS AND HEIFERS, 1949-56

Year		Million Head		Fed. Insp.
		Jan. 1	Dec. 31	
1949	Cows	39.8	40.6	+ .8
	Heifers	10.0	10.1	+ .1
	Total	49.8	50.7	+ .9
1950	Cows	40.6	47.1	+ 6.5
	Heifers	10.1	10.6	+ .5
	Total	50.7	57.7	+ 7.0
1951	Cows	42.1	43.9	+ 1.8
	Heifers	10.6	11.7	+ 1.1
	Total	52.7	55.6	+ 2.9
1952	Cows	43.9	46.8	+ 2.9
	Heifers	11.7	12.4	+ .7
	Total	55.6	59.2	+ 3.6
1953	Cows	46.8	48.9	+ 2.1
	Heifers	12.4	12.2	-.2
	Total	59.2	61.1	+ 1.9
1954	Cows	48.9	49.1	-.2
	Heifers	12.2	12.3	+ .1
	Total	61.1	61.4	+ .3
1955	Cows	49.1	49.1	0.0
	Heifers	12.3	11.8	-.5
	Total	61.4	60.9	-.5
1956	Cows	49.1	...	...
	Heifers	11.8	...	...
	Total	60.9	...	...

* Preliminary estimates AMI.

weather throughout the South and Central plains states.

This all adds up to a situation in which total marketings of cattle and calves are likely to continue somewhat above 1955 for the balance of the year. However, greater proportion of these marketings will stay in the country as stockers and feeders than was the case last fall. In other words, we expect slaughter for the balance of the year to run close to 1955 levels with short-fed and grass cattle supporting the steer volume, and with moderately more cows than a year ago. Calf slaughter may also be up somewhat from last year.

The end result of this pattern for 1956 is that the combined slaughter of cattle and calves may total approximately 40,500,000 head, or about 1,000,000 head more than in 1955. This increase is about what it will take to halt the gradual climb in total cattle numbers which has been going on during the preceding three years. It is even possible that total cattle numbers next January 1 might show a slight drop from the record inventory estimated at 97,500,000 head at the beginning of 1956. The statistics are not accurate enough to be precise about this, however, and either way it doesn't make a great deal of difference. The point is that the increase in cattle numbers seems to be leveling out, and the big question is what will happen from here on.

As we've mentioned before, in this annual outlook talk, we don't think there is anything sacred about the so-called cattle cycle which will cause cattlemen to start liquidating breeding herds merely because of a statistical situation in which cattle numbers are estimated to be at an all-time high. The important factors determining production decisions are weather, feed supplies generally, and economic conditions, both current and expected.

As for the weather, we know that many of the range states have endured severe moisture shortages during much of the past several years. Currently the Central and Southern plains are the worst hit. In fact, it is reported that western ranges generally are in the worst condition they have been since 1934. The resulting feed shortages have been alleviated somewhat by the emergency feed programs of the USDA which are aimed specifically at aiding ranchers and stockmen to maintain their basic breeding herds. At the same

time an interest in beef cattle for farm herds in the Corn Belt and in the Southeast has provided markets for breeding stock which might otherwise have been

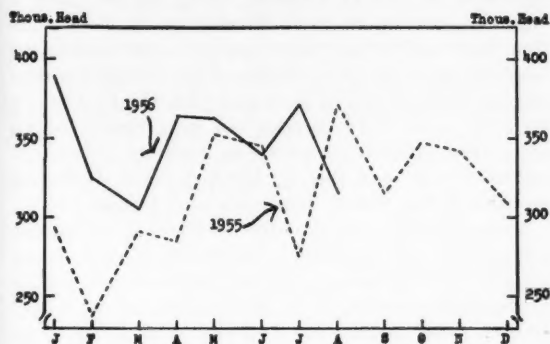


CHART 4: Beef steers sold out of first hand (by months), total seven markets, 1955-56.

purchased for slaughter. Since 1953 states east of the Mississippi river have increased beef cow numbers by some 1,500,000 head, while dairy cows have declined slightly in these states.

We've heard some comments to the effect that enthusiasm for farm-size beef herds in the Corn Belt

TABLE 4: TOTAL COMMERCIAL SLAUGHTER AND CLASSIFICATION OF F. I. SLAUGHTER, JANUARY-JULY, 1955-56

Class		Thousand Head		Change From 1955	
		Jan.-July '56	Jan.-July '55	Thous. Head	Per Cent
CATTLE					
Federally inspected					
Steers	6,316	5,266	+1,050	+20	
Heifers	1,618	1,573	+45	+3	
Cows	3,188	3,462	-274	-8	
Bulls and Stags	220	234	-14	-6	
Total	11,342	10,535	+807	+8	
Non-fed, inspected	3,781	3,809	-27	-1	
Total Cattle	15,123	14,343	+780	+5	
CALVES					
Federally inspected	4,250	4,084	+166	+4	
Non-fed, inspected	2,532	2,776	-244	-9	
Total calves	6,782	6,860	-78	-1	
TOTAL CATTLE AND CALVES					
CATTLE	21,905	21,203	+702	+3	
Source: USDA Market News, Livestock Division.					

Source: USDA Market News, Livestock Division.

has cooled off somewhat. On the other hand, the very fruitful research work on cattle and feed production at several of the experiment stations in the South and Southeast is giving considerable impetus to cattle raising in those areas.

All and all, except for widespread and extremely severe drought possibilities which are always present, it's hard for us to see any substantial liquidation of

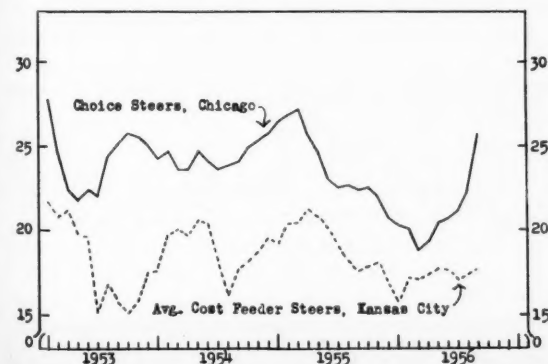


CHART 5: Feeder-finished cattle price spread widens.

TABLE 5: CATTLE ON FEED IN 13 STATES AND BEEF STEER SALES AT SEVEN MAJOR MARKETS, 1955-56

SEVEN MAJOR MARKETS, 1955-1956				
Item	Thousand Head		Numerical Change	Per Cent Change
	1956	1955		
Cattle on Feed, 13 States				
January 1				
Less than 3 months.....	3,532	3,887	-355	-9
3 to 6 months.....	1,148	931	+217	+23
Over 6 months.....	206	116	+90	+78
Total.....	4,886	4,934	-48	-1
April 1				
Less than 3 months.....	1,566	1,606	-40	-2
3 to 6 months.....	2,325	2,701	-376	-14
Over 6 months.....	222	176	+46	+26
Total.....	4,113	4,483	-370	-8
July 1				
Less than 3 months.....	1,326	1,276	+50	+4
3 to 6 months.....	1,043	1,186	-143	-12
Over 6 months.....	927	1,212	-285	-24
Total.....	3,296	3,674	-378	-10
Steer Sales at 7 Markets				
January-March.....	1,019	823	+196	+24
April-June.....	1,049	985	+64	+6
July.....	371	274	+97	+35
August.....	312	371	-59	-16

cattle herds looming up in the immediate future. We realize that production expenses are increasing, so that a \$70 to \$80 calf is hardly a gold mine. However, this is not a return which forces a bank foreclosure, and I'll still go along with the notion that our "beef producing plant" is not likely to shrink much in the

TABLE 6: STOCKER & FEEDER SHIPMENTS FROM 10 MARKETS, JULY-AUGUST, 1955-56

Item	Thousand Head		Numerical Change	Per Cent Change
	1956	1955		
Steers over 800 lbs.	55	32	+23	+72
Steers under 800 lbs.	163	114	+49	+43
Calves	122	62	+60	+97
Cows, heifers & bulls	70	47	+23	+49
Total	410	255	+155	+61

year ahead. If there is a return to more satisfactory rainfall in 1957, there might be much restocking.

As far as cattle marketings and beef production in 1957 are concerned, it seems probable to us that we have another relatively big year in the offing. The overall potential supply of cattle and calves would seem not to be too much different from this year. Once again, much will depend on the weather, but since you probably don't expect me to make an accurate long-range weather forecast, probably the best prediction we can make at this time is that total cattle and calf slaughter for 1957 will again be somewhere in the neighborhood of 40,000,000 to 41,000,000 head, with a total beef and veal production not too far different from this year's 15,800,000,000 lbs.

THE SHEEP AND LAMB SITUATION: Turning to sheep and lambs, I think you are all familiar with the fact that lamb production has rocked along at a relatively low level for the past eight years. There has been a slight upward trend in the size of the lamb crop due to an increase in the lambing percentage. Also, during this period there has been a small but significant growth in stock sheep in the so-called native states, which has offset a 20 per cent reduction in sheep numbers in the important Southern plains area.

Whether or not a substantial recovery in lamb production is in the cards, is hard to say. We know of several instances in which Corn Belt farmers who had never kept sheep having been agreeably surprised with their results. The Institute's lamb committee has considered the possibility of the farm flock development with a number of college animal husbandrymen, and the consensus is that an expansion in this area is quite feasible. The price support program for wool

also is a factor which may encourage some expansion.

The 1956 lamb crop is estimated at 20,400,000 head, which is 4 per cent more than the year before. There are indications that a more than usual proportion of the ewe lambs are being held back for breeding. If

TABLE 7: BALANCE SHEET OF SHEEP AND LAMB NUMBERS, 1950-56

Item	1956	1955	1954	1953	1952	1951	1950
Million Head							
January 1 number	27.0	27.1	27.1	27.6	28.0	27.2	26.2
Stock sheep	4.1	4.5	4.3	4.3	4.0	3.4	3.6
Lambs on feed	31.1	31.6	31.4	31.9	32.0	30.6	29.8
Total	20.4	20.2	20.3	19.6	18.5	18.0	17.9
Lamb crop	51.5	51.8	51.7	51.5	50.5	48.6	47.7
Total supply	14.0*	14.4	14.1	14.3	12.7	10.1	11.7
Slaughter	1.8*	1.8	1.8	1.7	1.3	1.0	1.1
Fed, inspected	3*	3	3	3	3	3	4
Other com'l.	16.1*	16.5	16.2	16.3	14.3	11.4	13.2
Farm	4.0*	4.2	3.9	3.8	4.3	5.2	3.9
Total	31.4	31.1	31.6	31.4	31.9	32.0	30.6
Other disappearance							
No. end of year							

* Estimated.

this trend is significant, it will reduce the number of lambs sold for feeding or slaughter this fall.

If sheep production is to expand significantly during the next few years, it can only come about through the holding back of ewe lambs and mature sheep which otherwise would be marketed for slaughter. In any event, total lamb and mutton production in 1957 probably will not differ very much from the approximately 750,000,000 lbs. of the past four years.

THE HOG AND PORK SITUATION: Now as to hogs, while individual analysts do not view the situation the same, there seems to be little doubt but that total hog supplies in the 1956-57 marketing year will be smaller than the year before. Thus far, that is to say during August and September, hog slaughter has not been greatly different from last year. This compares fairly well with the government estimate that the early part of the spring crop was about the same as in 1955. The big question comes with the fall and winter months when hog supplies will come from farrowings which were cut back, according to the USDA, by 7 per cent in March, 15 per cent in April and 19 per cent in May.

Incidentally, it's worth noting that the decreases in the 1957 spring pig crop were most pronounced in the western Corn Belt states, especially Nebraska and the Dakotas with reductions of 25 to 28 per cent.

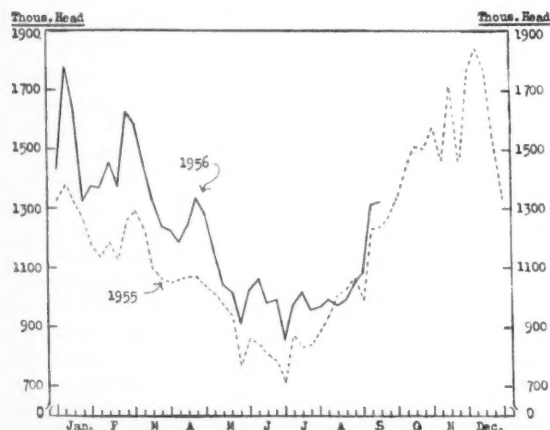


CHART 6: Weekly hog slaughter volume under federal inspection from 1955 to 1956.

Granting that the pig crop estimates may be off some—and I don't think we can expect an absolutely accurate count—I don't see how we can avoid the prospects of market supplies being smaller than a year ago during the next 10 months. If we assume that there will be no great change in the number of sows farrowed in 1957, so that there is little liquidation or holding back of sows and gilts, then we would look for a monthly slaughter of hogs under federal inspection which may average as much as 12 per cent below a year ago during the principal marketing months of November, December and January.

I should point out that this estimate is a tentative one which will be subject to review as the season progresses. Experience has demonstrated that it is virtually impossible to be as accurate as we would like in these predictions, and this year seems to be more uncertain than usual regarding hog supplies in these winter months. Coming over into the late winter to early summer period, our hog supplies in this pe-

TABLE 8: BALANCE SHEET ON HOG NUMBERS

Item	1949	1950	1951	1952	1953	1954	1955	1956
Million Head								
Total pig crop	93.2	97.4	100.6	88.8	77.9	84.8	95.6	88.1*
Less: Deaths	11.7	12.2	12.9	10.4	9.3	9.9	10.0	9.6*
Farm slaughter	9.9	9.6	9.2	8.1	7.0	6.9	6.6	6.5*
Net crop	71.6	75.6	78.5	70.1	61.6	70.0	79.0	72.0*
Total com'l. slaughter	68.2	73.2	78.7	71.3	62.4	69.9	80.5	74.5*
Federally insp. sl.								
Barrows	46.9	52.7	56.4	50.5	44.6	27.4	31.8	...
Gilts	...	...	...	...	...	23.6	28.4	...
S & B's	9.0	7.3	7.4	6.6	5.8	6.1	7.3	...
Total	55.9	60.0	63.8	57.1	50.4	57.1	67.5	62.0*
Non-federally inspected	12.3	13.2	14.9	14.2	12.0	12.8	13.0	12.5*

Source: Based upon United States Department of Agriculture figures.

* Marketing years beginning in August. * Preliminary estimates.

riod will be coming from the 1956 fall pig crop which also was estimated to be about 8 per cent smaller than the year before. However, in contrast with the spring crop, this cut in farrowings is indicated to have been greater for the early fall than for the late fall crop. This may mean that the reduction in slaughter supplies next summer will not be as pronounced as that which may occur this winter.

For the year as a whole, we've put our estimate of federally inspected slaughter for the 12 months ending next July 31 at 62,000,000 head, which would be 8 per cent less than the year just past, but 9 per cent more than the year before.

Looking beyond next July requires an estimate of the 1957 spring pig crop. While breeding for this crop is scarcely under way, there are a few straws in

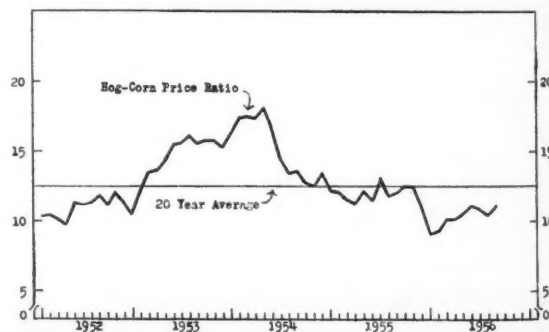


CHART 7: U.S. hog-corn ratio as it has fluctuated from 1952 to August, 1956.

the wind which seem to point in the direction of a further slight cut in next year's spring crop. One of these is the quarterly report released last Monday for nine Corn Belt states which showed an average re-

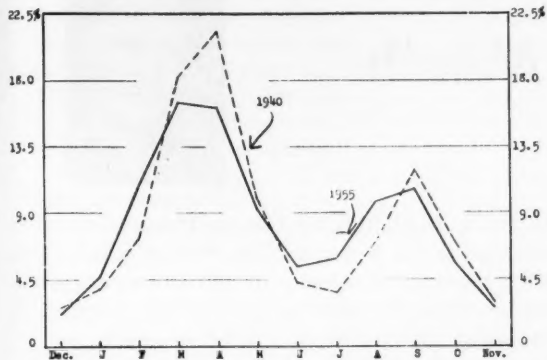


CHART 8: Seasonal pattern of hog production and marketing is changing. U. S. sows farrowed by months as a per cent of year total.

duction in breeding intention for the three months, December through February, of only 4 per cent. One state which has a bumper corn crop coming up, namely, Illinois, lists a 4 per cent increase. While the cur-

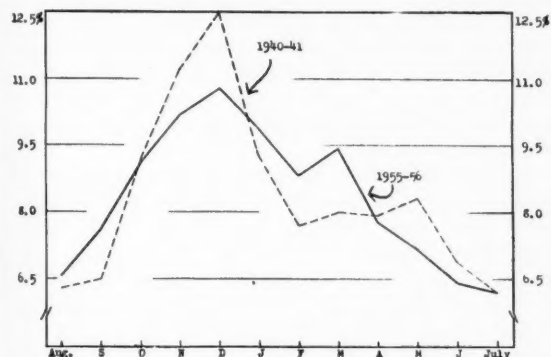


CHART 9: Federally inspected slaughter by months as a per cent of year total.

rent hog-corn price ratio is relatively unfavorable. there are indications that producers are fairly optimistic regarding the price outlook for hogs. This could hold production on a fairly steady keel, which would mean that market supplies of hogs during the last half of 1957 might differ only slightly from those

Period	1954 Million Pounds	1955 Million Pounds	1956 Million Pounds	1954-55 Pct. Change	1955-56 Pct. Change
January-March	6,926	6,222	5,817	+11	+19
April-June	6,313	5,894	5,522	+7	+14
July-September	6,300*	6,200	5,877	+2	+7
October-December	6,850*	7,155	6,589	-4	+4
Year Total	26,400*	25,471	23,805	+4	+11

* AMI Preliminary Estimate.

expected for the corresponding months of this year.

MEAT SUPPLIES IN 1957: On the basis of these production and marketing prospects for 1957, we've estimated that meat production for the year will total slightly more than 27,000,000,000 lbs., which would be a moderate cut-back from this year's record of 27,700,000,000, but it still would be a little above the

1955 production total of around 26,900,000,000 lbs.

In the case of beef and veal production, we see very little in the picture to change supplies greatly from this year. While there may be a tendency to feed cattle for shorter periods, production of grainfed beef is not likely to be curtailed for want either of feed or feeder cattle. Marketing of grass cattle in the last half

TABLE 10: U. S. PRODUCTION AND CONSUMPTION OF MEAT AND POULTRY

Item	1957 Estimates	1956 Preliminary	1947-49 Average	Pct. Change From 1956	Average
Beef	14.2	14.2	9.6	same	+48
Veal	1.6	1.6	1.5	same	+7
Lamb & mutton .....	.7	.7	.7	same	same
Pork	10.6	11.2	10.3	-5	+3
Total meat	27.1	27.7	22.1	-2	+23
Poultry	5.5	5.0	3.2	+10	+72
Total meat & poultry	32.6	32.7	25.3	small-	+29
Per Capita Consumption, Pounds					
Beef	82.1	83.2	64.7	-1	+27
Veal	9.2	9.3	9.6	-1	-4
Lamb & mutton	4.2	4.3	4.8	-2	-12
Pork	61.5	66.2	67.4	-7	-9
Total meat	157.0	163.0	146.5	-4	+7
Poultry	31.1	28.9	21.7	+8	+43
Total meat & Poultry	188.1	191.9	168.2	-2	+12

of 1957 can be only a rough guess at this distance, but as already noted, barring severe drought, we see nothing in the picture yet to suggest heavy culling and liquidation. Dairying seems to be on a pretty steady basis so that supplies of dairy-type vealers also are not expected to change much.

The expected cut in hog marketing will be reflected in a similar reduction in pork and lard production, which in total may amount to about 5 per cent less than this year's approximately 11,200,000,000 lbs.

Before closing, however, it is worth noting that pork's major competition, poultry, has established a new high production record of approximately 5,000,000,000 lbs. this year. While there is a difference of opinion among the poultry experts too, there are indications of a further significant increase in poultry meat production for the calendar year 1957. If the more optimistic developments occur, poultry consumption next year could be as high as 31 lbs. per person, which would be about 1 lb. for every 2 lbs. of pork products consumed. In the past eight years poultry consumption has increased about one-third, or 7 lbs. per person. In this same period, per capita pork consumption has declined slightly.

To conclude I refer to the question I was asked to discuss, namely, will meat supplies stay at record high levels? The answer is a qualified yes.

So far as 1957 is concerned, total meat production may be down a little from the 1956 all-time record. The cut will be mostly in pork. Since the country's population continues to grow at a rate of more than 2,500,000 persons per year, per capita meat consumption next year will fall back about 4 lbs. from the near record of about 163 lbs. this year.

As for the longer run outlook, the problem boils down to the simple arithmetic that to maintain a per capita consumption of meat at or near present levels would require an annual increase in production of nearly 500,000,000 lbs. per year. In view of the technological progress which is going on in nearly all phases of livestock production, plus the fact that the nation's agriculture has demonstrated a remarkable capacity to produce excessive quantity of feed grains, this would not be an unreasonable achievement.

Sausage on the March



PRESIDENT A. B. MAURER of Maurer-Neuer, Inc. says painful revolution in his own business when prepackaging began opened his eyes to great possibilities and necessity for progress in connection with the production, packaging and merchandising of sausage and allied products.

ANY good sausage maker of today, or even yesterday, could stump me in a debate on sausage making in the first round. However, when you don't know anything about as traditional a department as sausage and you begin to interest yourself in it, sometimes you are able to give the problems a different approach which ultimately proves beneficial. And a different approach, or at least an abandonment of old inflexible ideas, is essential in today's sausage setup where we have a revolutionary "new look" in the product and its manufacture.

My introduction to the sausage business came in a rather unexpected fashion a few years ago when prepackaging had its inception. At that time, our company began experimenting with new packaging ideas, thinking that we could continue to make sausage in our traditional manner, merely changing the outer package or means of presenting the product to the consuming public.

No doubt most of you have gone through this phase. What a shock our company received! From an eco-

nomic point of view, we were jolted almost beyond belief by the excessive costs encountered. It was here that I, as well as all of our executive personnel, set out to learn the sausage business. It was tough sledding, but I couldn't help thinking of that remark Henry Ford once made, "Business is never so healthy as when, like a chicken, it must do a certain amount of scratching for what it gets." I hoped he was right.

In our original work, we began to wonder if we could ever recover the vastly increased costs of production. Would it ever be possible to pass on to the consumer, through the retailer, the additional costs that we saw staring us in the face?

In order to provide an adequate protective film or package, we were forced to pay extraordinarily high prices since these coverings were in the costly, early stage of development. In addition, no machinery was at that time available to slice and package sausage in the manner desired, with the result that considerable expensive experimentation had to be done to make such machinery available.

My original setup in Kansas City for slicing on one line on which we produced less than 5,000 lbs. sliced and packaged sausage items per week cost in excess of \$30,000. Because of inexperience in training our personnel to use the new machines, etc., our total cost per pound, excluding the original investment in equipment and design, was staggering. In spite of all this discouragement, we persevered and found that by good control and careful supervision we were, in about a year, able to reduce the cost to something reasonable.

CHANGE AND MORE CHANGE: We were, however, far from our goal. As the development proceeded, more problems became apparent, each one requiring changes. Each change called for new physical facilities such as pre-chilling chambers, tempering rooms, slicing equipment, conveyor belts to and from slicing machines, etc. Before we could be sure that one system was a paying proposition, our mechanics and engineers would come up with a new approach that called for even further revamping.

Then came the greatest surprise of all. Our sales department, which we had counted on for enthusiastic support, instead of being an asset for the sale of



COPIES of the Provisioner's 50th anniversary American Meat Institute historical issue are given to members of the audience at the close of one of the sectional meetings on Saturday morning.

prepackaged sausage items, was a distinct liability. Salesmen thought the selling prices excessively high and began to show us a thousand reasons why the product was unsatisfactory. For instance, when we first began to slice pickle and pimiento loaf, our salesmen told us they could not see the pickles let alone the pimientos. We grumbled, but continued adding pickles and pimientos until we vowed there was little else in the loaf. But, surprisingly enough, the sales department was correct. Not only was the appearance of the sliced loaf in the package vastly improved but so was the flavor.

Along the same line, salesmen complained bitterly about the macaroni and cheese loaf. You couldn't see the macaroni, they claimed, and the cheese fell out. Here again, we were prodded into increasing the quantity of macaroni and, by a series of experiments with different types of cheese and different slicing temperatures, were able to fasten down the wandering cheese chunks. There was no doubt about the product being more attractive.

Our sales department, however, was far from knowing all the answers. It was soon apparent that salesmen did not know how to convince the customers that they should cease conventional methods of handling sausage in preparation for self-service sales. For instance, most of our customers had no means of knowing their cost per pound to slice and package sausage items at retail. Consequently, they felt our prices exorbitant. I have heard many times the story that stores had sufficient help anyway and so their slicing costs were negligible.

One of the major chains of our area told me that it was required to maintain help the week around and that on the first of the week these people were not busy so that was an excellent time to slice product for the weekend business. We finally convinced the chain, but it wasn't easy, that slicing by these methods on Monday and Tuesday morning, self-service abuses being what they are, could do nothing but produce merchandise unfit for the housewife's table by the time the weekend buying rush began.

SELLING THE SALESMEN: As you can imagine, our entire sales staff from the top down had to be sold on the new merchandising idea and thoroughly convinced that our costs were not excessive. A clever lady named Alice Hubbard once said, "Anybody can cut prices but it takes brains to make a better article." And that became our theme. We spent several months in special sales meetings, in describing procedures our sausage department was using, in elaborating on their efficiency and showing how it would be impossible for retail stores to produce the particular items for anything like our modest costs. We also emphasized the terrific impact upon the housewife of the kitchen freshness of pre-sliced sausage in pleasing packages and how this would be a means of increasing sales at the retail level.

Then came the crowning blow! Apparently the pre-slicing procedure introduced hazards and problems in the sausage factory never before encountered. Our old methods of manufacturing would no longer suffice. Why? Because self-service counters subjected the product to hazards we hadn't anticipated, such as blue light deterioration, consumer handling and lengthy display, and the product couldn't take it.

Tremendous changes had to be made and quickly. We were forced to review all our procedures of formulation, that is, chopping, mixing, stuffing, cooking, chilling and holding temperatures. Minor and major changes were required in most all of them. Here are some of the things we learned: Bacteria control in this new type of work became all important. Old time methods of sanitation were not sufficient. We found that it is necessary to simulate operating room techniques in order to keep our bacteria count at the low level required for self-service packaging. All workers are required to be extra clean.

The ingredients that we used had to be handled much more carefully. Both pork and beef had to be kept in prime conditions before blending and processing. Sloppy handling of former years was no longer tolerated. All beef and pork materials from our own slaughter were kept strictly fresh and were retrimmed for gristle and blood clots. Pork and beef materials purchased from other than our own killing facilities were found to be unsatisfactory until new standards were set up for our purchasing department.

TIGHTENING CONTROLS: Time and temperature and humidity were found to be much more important in this new work than they had been in the past. Critical temperatures in chopping, cooking, chilling and holding

SAUSAGE AND MERCHANDISING session speakers A. B. Maurer of Maurer-Neuer, Inc., and J. Russell Ives of the Institute await the meeting's third feature, the motion picture, "The Denver Story."



showed up. As little as two degrees difference in the chilling temperature of many of the loaves represented the difference between product that would slice and hold up in the store and that which would not. Raw materials could not be held beyond the time set up for their usage. Even 24 hours of additional holding on an item such as fresh boneless beef was found to be unsatisfactory, and 24 hours' abuse on fresh pork was impossible.

Because most sausage products are cooked, we found that the importance of time and temperature had often been neglected during certain phases of sausage production and merchandising. The reasoning here seemed to be that, since sausage is cooked, some of the bacteria that might have accumulated could be killed by sterilization in the cooking procedure with no apparent damage to the product. But this kind of carelessness could not be tolerated on product going into self-service. Bacteria simply could not be allowed to accumulate in the first place if a fine product with proper keeping qualities was to be manufactured.

The type of meat to be used required particular study, as I have already indicated. While it is true that all meat is wholesome if properly cared for, it is the condition of the meat used that determines good results in a modern sausage factory. It must be fresh and wholesome and well-trimmed regardless of whether it is bull meat, pork trimmings or tripe. In order to assure

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this, we have set up a quality control department whose sole job is to inspect ingredients prior to blending. They are checked by experts who can tell by appearance generally but, if there is any doubt, the product is subject to "on the spot" laboratory analysis.

Meat must be handled with extreme care. Every truck, tub, tree and piece of equipment should carry a label "handle with care." Every phase of the operation has a definite, measurable effect upon the finished product. No other product in our business is subjected to the abuses that is given to the sausage line. We beat it; we heat it; we chill it; we beat it again. This abuse must be controlled at every step to get product which will look attractive and taste fresh after days in a store case.

Great strides have been made in equipment in the last few years and more progress is on the way. Our experience tells us, stay abreast of the times. All these changes embrace control of time and temperature. Grind, chop, stuff, smoke, cook, chill, package, handle and display within the proper time and temperature limits that you should set up by your own standards. Do it constantly and carefully.

I didn't realize how far our sausage industry had come along these lines until this past summer when my wife and I and four children spent the summer motor-ing through most of Europe. We had the full gastro-nomic treatment from Michelin Three Star restaurants, to picnic lunch fare purchased in tiny Mama-and-Papa shops. For these picnic lunches, we had to buy bread in a bread shop, wine in a wine shop, sausage in a saus-age shop, fruit in a fruit store and so on.

NOT FOR US: I have friends who say to me, "Art, why can't you make ham like I had in France? Or, bacon like I had in Denmark? Or, sausage like we had in Germany?" All I can say after my summer of sam-pling and poking into European kitchens is, "If I did, brother, you'd be the first to complain and send it back."

Sure, they make some good ham and bacon and sausage in the old country, but it's all made for daily consumption where lack of refrigeration is expected. When the product is kept any length of time, it isn't fit to eat. I didn't bring back a single idea applicable to our business, hard as I tried. It was like going back to food dispensing practices of 50 years ago.

Automation has had a tremendous play in the papers recently as it has been developed by the auto and tele-vision industries. We are told of great factories that can turn out entire motor blocks with five or six people,

the balance being handled by automatic controls. There is no place in the world where automation could be better used than in the sausage department. Have you ever counted the number of steps in sausage manufac-ture? They are staggering and unnecessary.

I can envision a sausage factory producing the finest products of the land in which the meat is never touched by human hands and, most assuredly, is never shoveled from one stage to another. I do not have all the answers myself although I have a few ideas, but you people in this room are the ones who can develop such a future. Never take anything for granted. Every time one of your sausage makers shovels 10 lbs. of meat from a truck into a stuffer, figure out how you can produce this same result without all that expense. There is no reason to believe that within a short time we cannot have machinery available to chop meat and to pump it without handling directly into whatever measuring devices we use prior to packaging.

MEAT PUMPS SOON AVAILABLE: Meat pumps which will eliminate the need for stuffing are now on the drafting board and will soon be available for distribu-tion. We now have, as you know, automatic linkers and automatic peelers for wieners. The meat pump will make this type of operation almost entirely automatic.

I do not believe it is necessary to build an entirely new sausage factory during this process of evolution but I do think it necessary for the top management to have receptive minds. The job can be done only by your-selves with the aid of proper trade affiliates.

Inventory control plays almost as important a part in the handling of self-service product as the manufac-ture itself. Sausage products exist only because we make them; unlike pork and beef by-products which come to us because they come within the live animals, we never own any finished sausage products unless we de-liberately produce them. If we carefully study our daily business, we have no sound reason for old stocks that hurt our reputation and damage the public acceptance of sausage products in general. Daily production and internal inventory control can result in better margins as well as insure fresh fine products.

Added to this must be quality control. It need not be elaborate, but it must be constant. Decide what you want in each product and then check daily to see if you have it. Cutting and taste tests are necessary steps in an effective quality control program for finished sausage. One of the finest sausage firms in the United



A LONE LADY 50-year meat industry veteran and two-score male old-timers re-ceived their Institute gold service awards in person at a special convention luncheon ceremony on October 1.

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States, to my personal knowledge, tests its wieners daily. Not only employees in the sausage department, but every top official in that company knows every day how the company's wieners taste in comparison with those of its major competition. This is a particularly effective program for it tends to create quality and taste consciousness and desire for constant improvement of product at the top level.

PRICE VERSUS QUALITY: In some areas there are operators who seem to consider nothing but price. This is a difficult problem but our reasoning has been that it costs almost as much to produce an inferior self-service sausage as it does a fine quality product which can impress the buyer with the company's name and personality. Exceptional, well-packaged, self-service products give the producer an opportunity to create a demand for his goods which, in turn, lessens price fluctuation, an alluring goal which should be sought by every packer.

More extensive tests for fat, moisture, protein, etc., are excellent and must be included in any program to produce consistently fine sausage. Here is an illustration of the value of this type of control. Some time ago we were bidding on the wiener business for the new Kansas City major league baseball club, the Kansas City Athletics, and there were several concerns very close on the price. As a result, the purchasing contractors requested analyses of all the wieners offered by the various vendors.

To our complete satisfaction, our products were selected because they maintained the most ideal moisture, fat, protein ratio as specified by the American Meat Institute. It was particularly gratifying to me, since my training was in chemistry, to see that one of my pet projects had finally paid off in an unexpected manner. Similar results can be obtained by all with extra manufacturing care.

Sausage is big business. The sausage business in this country had its beginning as a means of disposition of certain of our meats which could not rapidly and profitably be channeled into normal outlets for fresh and cured meat. The old-fashioned sausage maker came into the "pudding" room as it was originally called, took a look at what hung in the coolers and filled the chilling trays, and daily made up his own formulas. To make consistently fine sausage today, formulas must be uniform and not subject to variable supply factors.

When standards are properly set and when quality control is functioning as it should, truly fine sausage can be made by anyone. But it is particularly important to

understand that if this is to be done, all elements of the manufacture of sausage by a quality control system must be thoroughly understood.

TAKE PRIDE IN PACKAGE: Assuming that your sausage quality is excellent, if you are to succeed in selling products through the self-service counter directly to the housewife, you must pay particular attention to the package you present to her. This must be clean, attractive, taste tempting and keep well. Since we fabricate every pound ourselves, no other product brands us as individually as does our sausage line. Each package carries our name and address to millions of homes. It carries with it our personality and our integrity. There must not be one of these messengers we would not be proud to claim.

Too many sausage makers sell what they produce. The reverse procedure is proper. Produce what you can sell. Lay out your sales plans and then produce against them, bearing in mind that what you sell is your front line offense.

Some of our problems have been solved but many are still in the process of solution. No perfect means of packaging luncheon meats has yet been found. There are those who believe in packaging sausage with special wrap and there are those who believe in vacuum packaging. Maybe both are right, but I feel quite sure that both are interim means of solving the problem. At the present time, every sausage item manufactured by our company is available in a vacuum package as well as in bulk. We are constantly working to help the housewife recognize and demand that package. We spend thousands of dollars a year to further this aim. But we are aware how costly can be just one "old" or poorly handled self-service package in this effort to win Mrs. Housewife's patronage.

Automatic slicing machines are now available from several companies to reduce the cost of slicing far below our original trial setup. Automatic wrapping machines are now available which do a fine job and which can hold costs to a minimum. Which brings up this question: Have our efforts been wasted so far or are we on the threshold of great success? It is possible that what our industry has seen to date is the awakening of a sleeping giant of tremendous economic benefit to the sausage industry.

At this point in the discussion of prepackaged sausage items for self-service and institutional use, it might be wise to review what has been accomplished with unit packages and self-service in other industries. For instance, what have the cheese companies done in their

FOUR RETAILERS, a packer and a public opinion analyst share the speakers' table at the Monday general session. Left to right are panelists Scott Detrick of Scotty's Markets; Don Grimes of IGA; H. V. McNamara of National Tea; moderator C. R. Musser of Wilson & Co.; Seth Shaw of Safeway Stores, and Elmo Roper of Elmo Roper & Associates.



segment of the field in the last quarter of a century?

I remember when as a boy I visited my uncle's country store at Graham, Mo., how much fun I had stealing a few nibbles from a large hoop of longhorn cheese standing on the counter. There was a big cheese knife hooked in the center ready to slice off whatever the customer wanted or, as close as my uncle could guess to what they wanted. I have always suspected that whenever that big knife came down somebody got cheated because no one could guess just how much a triangular chunk of cheese would weigh. I wonder how many mice, as well as children, had a free meal from this type of hoop?

TODAY'S BETTER MANTRAP: So how do you buy your cheese today? It comes processed in uniform jars, unit packages and pre-sliced uniform packages. This industry was one of the first to move rapidly in the direction of uniform packages for self-service sales. Many a good supermarket manager has told me that the self-service cheese counter is a great temptation for every man who comes by. I am certainly no exception. Every time I pass a cheese counter my mouth waters and I never fail to buy several of the appetizing items I see there. Does the shiny, clean, attractive, uniform package help make sales? You can draw your own conclusions. Impulse buying, one of the fundamentals contributing to supermarket success, excels at the cheese counter.

Let's look briefly at the cookie and cracker industry, also. Remember the old cracker barrels and the old unsanitary methods of dispensing crackers? Don't you suppose that when prepackaging was first suggested to cookie and cracker people that headaches similar to those I have just mentioned were apparent to managers and superintendents?

But let's look at the present picture. How many cookies are sold in the bulk and, even more amazing, how many crackers are sold in the bulk? Even large boxes of crackers contain small individually wrapped packages. Why? Because this type of packaging insures a superior product, better sanitation, locked-in freshness, convenience, eye appeal. And, more important, that's the way the housewife wants to buy them. A broadened market base is the result of all this. It has also vastly improved margins in these items that are



PACKINGHOUSE PROBLEMS and not the ladies' tea are being discussed by (left to right) David M. Traver, East Tennessee Packing Co., Knoxville, Tenn.; Ira V. Lay, Lay Packing Co., Knoxville; Herbert Slatery of East Tennessee Packing Co., and Emerson Moran of Emerson D. Moran, Coral Gables, Fla.



EXODUS FROM Grand Ballroom after sausage and merchandising session catches Russell lives of AMI on listening end of conversation.

sold for self-service. Ask the operator of any cookie or cracker company what his best profit items are and he will tell you his unit packages or self-service items.

This is the means that we can use to take our sausage items off the auction block. With good eye appeal and uniform quality products, you can attract the housewife and not be forced to be the cheapest man on the street in order to effect sales.

I believe the facts I have presented indicate that the sausage industry is approaching great new horizons. Developments will come thick and fast to those of us who are alert and willing to be progressive. Great strides will be made in the field of prepackaging because Mrs. Housewife will demand it.

Benefits to the manufacturer are manifold even though some of these may have been forced upon him. The benefits, in brief, are:

1. Better product and quality control.
2. Better consumer acceptance of manufacturer's brands.
3. Better control of profit margins.
4. Increased sales from impulse buying.
5. Better and faster presentation to the public of new and novel items.
6. Elimination of old-fashioned butcher resistance.
7. Longer shelf life.
8. Improved research opportunities.
9. Easier procedure for store testing of products.
10. Less daily price fluctuation.

In summation, I exhort you to think up your own ideas and keep trying no matter how revolutionary your ideas may be. Watch the store level. Top management should check store cases at least once a week for new developments. Keep in touch with any meat case developments for they vitally affect plant procedure in manufacturing. Be extremely cognizant of new machinery because in this field lies the great white hope of the meat prepacking industry. Costs can be reduced fantastically by machines. Some of these machines are already on the market and more are on the way.

Don't be afraid to have a failure because, in the development of new ideas such as we are facing, many failures must occur before success can be final. Work with your trade associations for they can keep you abreast of new developments as rapidly as anyone. Let's keep this section of our industry modern and, most important, let's keep it solvent. Remember, the "new look" is here to stay in sausage.

LIFO and Meat Packing



LIFO METHOD of valuing inventories and other phases of the tax laws are analyzed by Timothy J. Sullivan, partner in the public accounting firm of Arthur Young & Co.

ON APRIL 1, 1957, the normal tax rate of 30 per cent on corporations expires and the rate that will automatically go into effect will be 25 per cent unless the Congress again votes to extend the present rate for one additional year as it did in 1955 and 1956. The reason Congress voted to continue the high normal tax rate of 30 per cent in 1955 and 1956 was to reduce the deficits as forecast in the national budgets. For the year ended June 30, 1956, the budget was balanced and the Treasury in fact had a small surplus which is to be applied to the public debt.

We are informed that the budget will be balanced for the present fiscal year and it is believed that a respectable surplus will be reported. Since we are in an election year and the platforms of both political parties have promised tax relief, it is only reasonable to expect a beginning of a period of reduction in corporate tax rates.

With this thought in mind, I have selected a few subjects, in addition to the principal subject, which are timely because for the most part they have a direct effect on current year's earnings and they should be fully considered before this year's closing.

The first topic to be discussed is the principal subject, "Application of LIFO in the Meat Packing Industry." A great deal has been written and spoken during the past 15 years relative to the last-in, first-out method of valuation of inventories. Much of this information has been tempered according to the leanings of the one making available this information. A large part of it has also been of a technical nature dealing with special requirements for tax purposes, or phrased in terms which are directed specifically to accountants. I hope that I can present to you, as nearly as possible in nontechnical terms, certain information that may be useful in considering the advisability of adopting Lifo.

It was as far back as 1941 that Lifo, in some degree, was adopted by a few members of the American Meat Institute and in subsequent years additional members followed suit, but it is believed that only a relatively small percentage of Institute members today are using Lifo. It was for that very reason that this subject, "Application of Lifo in the Meat Packing Industry," was deemed timely.

WHAT "LIFO" MEANS: In accounting terminology,

the term "Lifo" refers to the "last-in, first-out" method of valuing inventories which is an old concept among accountants. It was not too often used in actual practice until the Internal Revenue Code was amended in 1939. Amendments that year made Lifo an acceptable basis for valuing inventories for federal income tax purposes and set forth in general terms the rules by which Lifo values should be computed.

In some respects these methods, as they have been revised and simplified, deviate from the theoretical concept of "last-in, first-out" as accountants had originally envisioned it but, since every company that employs Lifo today in its books of account, also uses it for federal income tax purposes, the term "Lifo" as it is now used has become synonymous with the inventory valuation method prescribed in the statute. I will use the term in that sense.

The theory of Lifo inventory valuation is, in brief, a pricing procedure that has for its purpose the exclusion of inventory profits and losses from current income. This is accomplished by matching current costs against the current revenue from sales to the extent possible within the structure of facts and actually completed steps in a chain of operations. It assumes to the extent possible that the inventories on hand at the end of the year are the same as on hand at the beginning of the year and that the costs incurred during the year are the costs which should be matched against selling prices during the year.

The critical question is to what extent has the Lifo method been used. Until 1939 it probably is safe to assume that the use of Lifo was negligible except in very restricted areas of the economy, chiefly petroleum refining, tanning and the processing of non-ferrous metals. Since 1939, however, the method is known to have spread widely as to both the number of companies employing it and the industries to which it is applied.

Little precise information is available, however, concerning the extent of its current use. A survey of 600 corporate reports by the American Institute of Accountants covering fiscal years ending within the period May 1, 1954, to April 30, 1955, shows that 194 of these companies used Lifo in whole or in part. This is an increase of 83 corporations over that reported in the survey made by the American Institute

of Accountants for the year 1947. It is to be noted that of 13 meat packing industry reports surveyed in 1955, seven were users of Lifo in some degree. Several years ago the National City Bank of New York in its "Monthly Letter on Economic Conditions" noted that 36 of the 100 largest American corporations used Lifo in whole or in part. From the above surveys it can be seen that Lifo is growing in favor with American industry.

FACTS TO CONSIDER: So, from the published reports of American industry, wherein the story of the adoption of Lifo is set forth, have come what we now regard as traditional tests in considering the adoption of the Lifo method. They are: 1) The industry must be one in which the spread between current costs and current selling prices is relatively constant during long upward and downward swings of prices; 2) The investment in inventory should be large relative to other assets, and 3) The inventory should consist largely of a few basic materials, or pools of material. These three traditional tests are met in the inventories of the meat packing industry in the vast majority of cases and therefore present no bar to the adoption of Lifo.

In addition to the so-called traditional tests, there are four economic factual requirements that must be present in order to gain the maximum benefit from adopting Lifo: 1) In the year of change, there should be a substantial rise in prices; 2) The income tax rate should be high since the tax postponement is the most tangible benefit from electing Lifo; 3) The opening inventory of the year of change should be high in terms of quantity and, in particular, low in terms of unit cost, and 4) Future conditions do not portend liquidation of the inventory during the high price, high tax period.

At this date the four economic factors are present but affect members of the meat packing industry in varying degrees. The pork packing segment of the industry seems to be in the best factual position to adopt Lifo in the current fiscal year that it has been in for the past 15 years. I suggest we examine the four factors as they might apply to pork packers.

On December 31, 1955, the monthly average hog price at Chicago for all grades was $10\frac{1}{2}$ c as contrasted with today's prices of $16\frac{1}{2}$ c and estimated year end prices of $15\frac{1}{2}$ c. The price swing of 5 or 6c a pound meets the requirement of "a substantial rise in prices in the year of change." The tax rate of 52 per cent is high and let us make no mistake about that: It is hoped that tax rates in the future will decrease materially. The third requisite that the beginning inventory in terms of quantities be high and prices low is definitely present for packers reporting on a calendar year basis.

It was as far back as December, 1941, that hogs were priced at $10\frac{1}{2}$ c per pound. In the interim period they have reached the price of $26-1\frac{1}{5}$ c per pound. Fourth and lastly, the economic picture does not forecast a price of $10\frac{1}{2}$ c per pound at any time in the foreseeable future.

TAX ADVANTAGES CITED: The pork packer with a normal inventory of 2,000,000 lbs. at December 31, 1955, with a cost of $10\frac{1}{2}$ c per pound has an inventory value of \$210,000 in his accounts for the year



SPEAKERS' TABLE at the accounting session with Cletus P. Elsen of E. Kahn's Sons Co., giving his talk on overhead allocation.

ended December 31, 1955. If this same packer closes the year 1956 with 2,000,000 lbs. at $15\frac{1}{2}$ c, the value of the inventory will be \$310,000, or an inventory profit of \$100,000, on which a tax of 52 per cent, or \$52,000, would be paid for the year 1956. On the other hand, if the election is made to adopt Lifo for reporting and tax purposes, the closing inventory at December 30, 1956, would be priced at $10\frac{1}{2}$ c, thereby eliminating from the current year the profit of \$100,000 which would otherwise have been reported under the historical method.

The entire profit of \$100,000 on 2,000,000 lbs. of inventory will be postponed until such time as the price of hogs declines to $15\frac{1}{2}$ c per pound, and some portion will be postponed until the price declines to $10\frac{1}{2}$ c. This example demonstrates very strikingly, the tax advantages of adopting Lifo. It amounts to the retention in the business, of tax dollars otherwise due, interest free, until such time as prices decline to those as of the year of change.

Today, taxpayers adopting Lifo prefer to use the "dollar value method" in determining the inventory value. The "dollar value method" eliminates the necessity of matching the individual items or limited groups in inventory and permits the matching of pools of dollars invested in inventory at the beginning and end of the accounting period, after appropriate adjustment for price changes. The total inventory usually consists of raw materials, work in process and finished goods. In the case of the pork packer, the raw material content of the total inventory can be considered as one group or pool. Labor and overhead can be included under Lifo as separate pools, but in the packing industry they may be excluded without important loss of advantage because the dollar amounts involved are small compared to raw material content in the total inventory.

To maintain the dollar amount of this pool, a liquidation of hams could be replaced by a comparable dollar amount of lard without constituting a liquidation of the pool itself. It thus can be seen that the "dollar value method" of valuing inventory for Lifo purposes gives the user greater flexibility in maintaining its Lifo base. The foregoing observations are not intended as a complete description of the "dollar value method" of pricing inventory for Lifo purposes but only to call your attention to the fact that the quantity of like items is not the only, and quite likely is not the best, method of applying Lifo.

DISADVANTAGES OF LIFO: There are certain argu-

ments against the adoption of Lifo which should be considered in the overall review relative to its adoption. Some of these are: 1) The apparent understatement of asset values in the balance sheet after a period of rising prices or the converse overstatement in the event of a sustained period of falling prices; 2) The problem of determination of interim profits with satisfactory accuracy, and 3) The additional clerical and accounting effort necessary to compute Lifo inventories.

There can be no doubt that the recording of inventories on the balance sheet date at a historical cost representing a price level substantially different than that prevailing at balance sheet date presents a relatively serious problem to the company using Lifo. However, it is believed that this obstacle can be satisfactorily met whether through paranthetical notation relative to approximately current values or by footnote or by showing the inventories at the actual current value offset by an adjustment account or reserve to make provision for that portion of the current values not recognized under Lifo.

Inventories are not purchased at the same tempo that inventories are sold within any given accounting period. Consequently, at any time when there has developed a difference between current costs and the Lifo inventory valuation, the sale of inventory earlier than its repurchase or replacement can create a temporary distortion in the recorded profit. However, it is necessary, in order that the result of such temporary liquidations does not seriously affect the amount of recorded income from day to day or from month to month within the fiscal year, that proper recognition of the problem be given by management and that appropriate computation and adjustment be made to the figures. The determination and reflection of such adjustment is an accounting problem but management must recognize the problem and follow through to see that the figures presented are not misleading and subject to subsequent correction or adjustment.

In the year of first adopting Lifo inventory valuation, a substantial amount of additional clerical and accounting effort will be required to make all necessary computations and determinations. As a matter of fact, the entire inventory will have to be priced on at least two bases, first at the beginning of the year prices and second at either 1) earlier cost, 2) average cost, or 3) latest cost.

In order to satisfy yourselves as to the most satisfactory method of valuing increment during the year, it may be necessary to make at least a rough calculation of each. In subsequent years, although the amount of additional effort may be reduced as compared to the year of adoption, there will continue to be additional effort required that will not be present under the first-in, first-out inventory method. Such additional clerical and accounting effort does cost money and the benefits to be obtained must, in the mind of management, be sufficient to justify the additional expenditure and effort in the determination of inventories under the Lifo method.

CONCLUSION: My discussion of Lifo as applied to the pork packer has been deliberately simplified in order to stimulate your interest in the subject of Lifo as

it may be applied to your inventory. The economic climate as applied to packinghouse products for the past several years has not been favorable to the adoption of Lifo because of a long downswing in the price structure. The evidence at the moment is that prices for hogs and beef have reversed their price trend of recent years and we may again be in the beginning of a long price upswing.

When the decision is reached by management to elect Lifo from a business point of view, it is the responsibility of the company's accounting staff and its advisers, in addition to ascertaining that all technical requirements are met, to develop procedures for the application of the Lifo method that will produce the maximum advantage. It is important that those charged with the accounting responsibility to make Lifo operate successfully become thoroughly familiar with the pertinent provisions of the Internal Revenue Code and the various regulations that have been issued thereunder.

This discussion of the subject of Lifo is not intended as a complete review of the benefits or problems under the Lifo method of inventory valuation. Rather it is intended as a brief outline of some of the major problems which must be recognized and weighed by management in its consideration relative to the adoption of Lifo.

DEPRECIATION: The Revenue Act of 1954 granted all taxpayers two new methods of calculating depreciation on new acquisitions. They are known as "sum of the years digits" and the "declining balance" methods. Many firms, however, are ignoring the potential long-term advantages of the faster depreciation allowable under these two methods because of misleading static comparisons. The attitude of many taxpayers is that in the long run it doesn't make much difference whether or not you use accelerated depreciation. Their position is that while you may pay less taxes presently if you adopt the new depreciation methods, you will pay more later on, so that if tax rates remain unchanged the total tax paid is the same.

The argument continues that if tax rates should increase in the future, taxpayers adopting the fast write-off methods would be penalized. This attitude is almost entirely unjustified. It is based on a static rather than an aggressive analysis of the subject and the long-term consequences. It overlooks entirely the fact that a tax dollar saved today and in the immediate future is worth more than one saved later on. The more quickly and aggressively these saved tax dollars resulting from fast depreciation are reinvested in the business, the more valuable they become to that business. Moreover, in weighing the advantage of the new accelerated methods it is important to keep in mind that spending for new plant and equipment is not a "one shot" affair. It is a regular and growing part of business.

Each year in varying amounts every business enterprise that is not declining and headed for extinction is making capital expenditures which are the subjects for new fast write-off elections. Fast write-off thus becomes a vehicle for continuous and permanent tax savings. If for the past two years you have failed to claim accelerated depreciation, you should nevertheless give further consideration to claiming accelerated

depreciation on 1956 additions. The election to claim accelerated depreciation is an annual election with respect to new additions. The Commissioner has recently issued his final regulations on depreciation and you will find them to be fair and useable.

PENSION PLANNING: Because the establishment of a pension plan involves two tremendous imponderables—human beings and the future—it has been said that a pension plan should be set up by a psychologist with a crystal ball. Despite the absence of such a fully qualified consultant, it has been estimated that at least half the nation's office workers and about one-third of the plant workers are covered under some sort of privately-financed retirement plans. Modern pension planning started late in 1942 after the enactment of special provisions in the 1942 Revenue Act. The unions jumped into the pension field in 1949 and many of the union-negotiated plans were renegotiated in the 1953-55 period. Many employers are now providing both the coverage demanded by unions and also additional rights and benefits computed on other bases for other groups of employees.

In many instances the profit-sharing plan type of retirement program has met with considerable favor. To add further to this picture, the existence of the federal social security program is and has been an obvious factor considered in plans for retirement. High income tax rates have made pension and profit-sharing plans a much more significant factor in employee and employer thinking than they ever were before, and especially as to those employees in the high surtax brackets.

The pension plan under which the employer at his own discretion awards pensions to selected employees individually is the thing of the past. From the employer's point of view an informal plan is the most expensive method of awarding pensions. There is no tax advantage in using it. There is no fund building up whereby the annual income is free from income tax. As employees reach retirement age, the employer is faced with an increasing load of pension costs.

From the employee's point of view, generally the preference is for formal plans since a formal plan lets each participant know exactly what is coming to him. It does not subject the employee to the boss's whim or to the even more serious risk that the business may be sold with no pension rights vested in him. Where a business is sold and a formal pension plan exists, normally the accrued rights are fixed. Funds are permanent and available to the employee when he retires, and while he is working he feels assured he will get his share on retirement.

FAVORED TAX TREATMENT: Qualified pension and profit-sharing plans command favored tax treatment under the income tax law. The employer may deduct up to 5 per cent of the covered employee's compensation—up to 15 per cent under profit-sharing plans. The employee has no tax to pay on the employer's contribution until he actually retires, and then the payments to him will be taxed only at the capital gain rate if his share is paid out within a single year. Income from investments of the funds of a qualified plan is tax exempt until actually paid out. To continue to qualify there are also some restrictions on the way these funds may be invested. Under certain con-

ditions, the first \$5,000 of death benefits paid by reason of an employee's death is excludable from the employee's gross income if paid from a tax exempt plan.

If contributions to the fund are made in company stock, neither the employer nor the employee is taxed on any increase in the value of the stock while it is in the trust. It becomes taxable only when the employee disposes of it. If the stock is held until death of the employee, the estate has a new cost base and the increment in value of the stock is not subject to income tax at all.

At this point one may ask, "How can I qualify my pension plan and when should the steps be taken to secure qualification?" The Internal Revenue Code and the Treasury regulations do not require that an advance ruling be secured as to the qualification of pension, annuity or profit-sharing plans as a condition precedent to obtaining the tax benefits pertaining to qualified plans. However, as a practical matter, it is advisable to secure an advance ruling on the qualification before putting a plan into effect. Because of the complexities of administering a plan and the legal and restrictive procedures on amending a plan, as well as for tax reasons, it is wise to submit the plan to the Treasury for a determination as to whether it satisfies the requirements of the Code so that the trust is entitled to tax exemption and the employer is entitled to a deduction for contributions to the fund.

While a ruling is not of itself conclusive proof that an employer is entitled to deductions for contributions, it is nevertheless assurance in most cases that the advantages of qualification may be availed of. Contributions to deferred payment plans whether or not they qualify are, as a general rule, deductible by the employer only in the year when paid, even on the accrual basis. However, if the employer is on the accrual basis, contributions to a qualified plan under the present Code can be made at any time prior to the time prescribed for filing the tax return, including extensions, and the deductions will be allowed as if the contributions had been made on the last day of the taxable year.

Although payment to a qualified plan may be delayed until after the close of a taxable year, contributions to constitute allowable deductions must be made pursuant to a plan in effect and, if trusteesd, to a valid existing trust which is recognized as such under the local law affecting that concern.

The safest procedure is to set up the plan or trust completely before the close of the year. Following the creation of the plan and/or the trust, a request for a ruling for qualification should be made to the local district director's office. If the plan is a new plan and if, upon review by the pension section, certain amendments have to be made in order to insure qualification, the Code permits amendments to be made retroactively up to the 15th day of the third month following the close of the taxable year. In the case of the calendar year corporation for the year 1956, a plan put into effect before December 31, 1956, could be amended up to and including March 15, 1957, whereby a deduction of contributions to it for the calendar year 1956 would be allowed.

ACCRUAL OF VACATION PAY: Amounts paid to an

employee while on vacation, or amounts paid to an employee in lieu of taking a vacation, constitute compensation for services rendered. The deduction for federal income tax purposes is subject only to the same limitations applicable to any other deduction for compensation paid—it must be for services actually rendered to the employer and it must be reasonable in amount.

Generally, the vacation allowance is paid at the same rate as the employee's regular wage or salary and there is normally no question as to its reasonableness or as to its being compensation for services actually rendered. With the retroactive repeal last year of the Internal Revenue Code provision relating to reserves for estimated expenses, the Treasury has announced that for years prior to and including 1956 it will continue its liberal policy as to vacation pay accruals and will permit deductions under rulings in effect prior to the enactment of the new Internal Revenue Code of 1954.

Generally, under such rulings, the accrual of vacation pay is permitted in the period in which all conditions relating to rendering the qualifying services are met in full. That is, where an employee's right to a vacation, or pay in lieu thereof, is established by virtue of his having performed services during the taxable year even though individual employees may leave the company prior to the vacation period and thereby forfeit their rights to vacation pay. The Treasury, however, has not consistently adhered to these rulings. Its denial of deductions for vacation pay accruals which seemingly were proper deductions pursuant to such rulings has been upheld by several court decisions.

Recently, and in accordance with such court decisions, prior rulings were revoked and the Treasury has announced that with respect to tax years ending after 1956, no deduction for accrued vacation pay will be allowed unless it can be established that at the time of accrual each individual employee has a vested right to a specific vacation allowance, the amount of which can be determined with reasonable accuracy, and which will not be forfeited by termination of employment or other cause. For this purpose there is no distinction between vacation plans under union contracts and those under oral agreements. As long as the plan or policy was communicated to the employee before the beginning of the vacation year and the employee's rights to a vacation, or pay in lieu of vacation, vested under the plan before the close of the taxable year, the employer may accrue the deduction.

PROBABILITY NOT ENOUGH: In announcing this change of policy, the Treasury followed closely the language of one court decision on the vacation pay issue as follows: "The reasonable probability during the taxable year that a liability will accrue is not sufficient if, as a matter of fact it does not actually come into existence during the taxable year. A liability does not accrue for tax purposes as long as it remains contingent, or if the events necessary to create the liability have not occurred."

A plan or policy which qualifies for a vacation pay accrual as a deduction in 1956 may not, under the Treasury's change of policy, meet the more stringent

requirements for a deduction in 1957. Unless such a plan is amended to create the fixed and determinable liability to each employee as required by the ruling, the employer may find that his deduction for vacation accruals as of December 31, 1957, will be denied. In view of possible subsequent reduction in federal income tax rates and the resulting desirability in many cases of obtaining all possible tax deductions in 1956, it is particularly appropriate that the treatment of vacation expenses for tax purposes be considered or reconsidered prior to the termination of the current year.

For the employer who has never taken a deduction for accrued vacation pay, it may be desirable for him to re-examine his vacation plan and/or union contracts to find out if appropriate action can be taken to institute the changes necessary to create the fixed liability for a year-end accrual and therefore permit him to take a double deduction in 1956, one for vacations paid during the year and one for vacations earned but to be taken in 1957. No accrual of a deduction, however, will be permitted unless the vacation plan or policy is part of a written or oral contract or agreement with the employees or has been otherwise communicated to the employees. Furthermore, any change in policy would have to meet the strict requirements of the Treasury's new rule in order to obtain a deduction this year for vacations earned to be taken next year.

ACCRUED BONUSES: Many firms pay bonuses to their key employees, based on the earnings of the year after said earnings have been determined as a result of annual audit. Thereafter, in the succeeding taxable year, these bonuses are paid and deducted because no proper accrual existed at the close of the year for which the bonuses were determined. Attention should be given to the possibility of advancing the deduction for bonuses to the year of accrual. This can be accomplished if the incentive compensation plan is formalized. The employer must definitely obligate itself prior to the end of the taxable year to make payment to said key employees, of bonuses definitely determinable through a formula in effect prior to the end of the taxable year.

This is accomplished by delivery to each employee concerned of either a written or oral notice of the percentage of such total to be awarded to him. Payment of such bonuses should be made as soon after the close of the year as is administratively feasible. By such formalizing, in the year of change, the taxpayer is entitled to claim a deduction for bonuses actually paid and also for bonuses relating to the current year which are to be paid to the key employees in the subsequent year.

To sum up, these topics that I have discussed here today stress the point that certain opportunities exist for tax savings now and that every effort should be made to take full advantage of them in the present taxable year. It is true that the adoption of any of these suggestions will depress current year's earnings, but more cash is retained in the business which can be used to meet today's problems. The deductions from income made in 1956 will be at a tax rate of 52 per cent, whereas postponement to 1957 may be to a year when tax rates may well be lower.

Valuing Stocks, Transfers



JOHN J. DIERCKS, secretary-treasurer of Stahl-Meyer, Inc., reviews the procedures employed in valuing inventories, and interdepartmental transfers, particularly in connection with preparation of interim statements.

IN BEING asked to discuss with you today some of the principles and methods employed in the valuing of inventories and transfers between departments, it seemed appropriate to include not only our own experience but that of a cross-section of the meat packing industry.

Much of the material used herein was supplied me by other companies; and for this assistance and that of Jack Decker and Ed Wilson of our own company I am deeply grateful.

Probably the most important consideration in inventory valuations is the determination of income. The use of generally accepted bases and methods of application of those bases will affect the validity of statements of profit and loss as well as make an easier job of evaluation and analysis of results. Included in those bases are: (a) Cost, (b) Market, (c) Cost or market, whichever is lower, and (d) Selling price less certain allowances.

Methods of application are: Last In, First Out (LIFO); First In, First Out (FIFO); Moving Average, and others. For purposes of year-end statements if there is a change in either the base or method of application, that change must be disclosed in published reports and very likely would require the approval of the Commissioner of Internal Revenue. If the change results in a material effect upon income, it must be so noted.

A second important reason for sound inventory valuation is balance sheet presentation. Current ratio and working capital positions are weighed carefully by suppliers and are of particular importance where short-term credit is involved.

GENERAL USAGE IN THE MEAT INDUSTRY: It might be said that there are four principal kinds of inventory used in a manufacturing or processing business: 1) Raw material; 2) Work in process; 3) Finished goods, and 4) Supplies.

In meat packing we have all of these, from the live animal through product ready for shipment, but, unlike many industries, our problem of determination of costs and, therefore, of inventory valuation is not a simple totaling of a bill of materials. Many products are those on which cost cannot be determined, such as primal cuts and boneless meat for manufacture, and on these a basis of market must be used.

The great variety of items from dressed carcasses and primal cuts to by-products and purchased items neces-

sitate the use of a range of pricing bases. This does not, however, destroy the principle of uniformity, and in the various companies surveyed there is a marked similarity of inventory pricing techniques.

The three bases generally used in the meat packing industry are: cost, market, or cost or market, whichever is lower. The methods used in application of these are: Last In, First Out (LIFO) and First In, First Out (FIFO). To a lesser extent, many companies use selling prices less certain allowances. The methods outlined are used principally for valuing year-end inventories and, to a lesser extent, are used during the year.

Most packers use manufacturing cost where cost can be determined, and market less selling, delivery and packing on those items on which cost cannot be established. Manufacturing cost usually includes raw material, containers and wrappers, supplies, casings, spices and ingredients, direct labor, and manufacturing overhead. Since expenses such as advertising, assembly, shipping, general and administrative and selling and delivery have not yet been incurred, they are usually excluded in inventory valuations.

Market is most often defined as Chicago basis as quoted by one of the commercial reporting services adjusted by area differentials (usually freight). It is also designated as being within a given locale. This is usually the city or town where a plant is located and whose area of distribution is within close proximity to it.

It must be recognized that not all items fall in either category of cost or market where market is represented by Board of Trade trim. Many packers use special trim on certain items and this must be reflected in the cost and inventory values. Adjusted prices are also used when published prices are considered nominal or unusual. Ordinarily in these cases, the prices are set by the commercial department involved.

Another classification requiring special pricing, is the product on which sales realization is below the manufactured cost. In this case inventory is valued at selling price less cost to sell, package, and deliver. This latter method is also used by some companies which do not have a production cost system.

Although FIFO is used on interim statements including departmentals by some companies, LIFO, to the extent of the companies surveyed, is usually used for

general ledger purposes, without being reflected in departmental results.

APPLICATION TO PRODUCT AND PRODUCT GROUP: In applying general principles to specific products or product groups the methods of inventory valuation are in some cases governed by the type rather than the size of operation. One example of this is the use of market where cost is not obtainable, and would apply to most slaughtering operations, companies killing and cutting hogs in particular. The same may be true of the slaughterer-processor compared to the processor only.

In the former instance, boneless meat for manufacture may require the use of market as a basis of valuation; in the latter, where boneless meat is purchased in that form, actual cost may be the basis. The inventory valuation of the following product groups are represented by slaughterer-processors. Any apparent duplication represents different methods used. Valuations are for interim statements.

PRODUCT GROUP

LIVESTOCK
DRESSED CARCASSES
 (all species)
 All product on which
 market is used as basis
 All product on which
 cost is ascertainable....
FRESH PORK

CURED PORK

MANUFACTURED
PRODUCTS (other than
 canned)

CANNED PRODUCT...

FREEZER PRODUCT...

EDIBLE FATS

P. S. LARD.....

INEDIBLE RENDERING,
CASINGS, HIDES, etc.
WORK IN PROCESS...

BASIS OF VALUATION

Actual cost.

Carcass test cost.

Market adjusted for area differential and anticipated cost to sell.

Lower of cost or market.

Market price adjusted for area differential less cost to sell. One other method used is valuation relative to live hog values. If hog test results show plus or minus from live hog costs, products are adjusted up or down to conform to live value.

Market price adjusted for area differential less cost to sell or less an arbitrary amount.

Priced at manufactured cost on FIFO basis; manufactured cost determined as replacement cost of raw material as of product date, plus labor, supplies and overhead.

Priced at accumulated average manufacturing cost.

Priced at current market value at time of acquisition less cost to sell. Some packers use this basis and add carrying charges (storage, insurance, interest) in order to calculate profit and loss on freezer stocks, and to insure total cost being charged into production on withdrawal from freezer. Lower of cost or market is also applied to freezer stocks, writing off market declines to freezer P & L.

Priced at Chicago loose basis adjusted by yield factor in rendering.

Based on market.

Priced at market cost less cost to load and ship. Valued at cost through number of cost centers product has passed. Cost includes raw material, labor, supplies, overhead, etc.

METHODS USED BY PROCESSORS: In valuing inventories for interim statements most processors use manu-

factured cost or current replacement cost adjusted to freight. Some companies in the absence of production costs use selling price less customary allowance.

We are processors in our eastern operations and buy all raw materials on the open market or from our beef slaughtering plant in Kansas. The case of the processor is a vastly simplified one when compared to the integrated packer. Processors as a rule have an established cost since they buy their materials for manufacture on the outside.

The only case in which they must use the market is for by-products produced during course of manufacture. We have an example of this in our own operations in which we produce lard and rendered pork fat as a by-product of the manufacture of boiled, smoked, and canned hams. In this case we value fats and rendered product using methods previously described.

During the year we value our normal working inventory of both raw material and finished goods at cost using the moving average as the method of application. This method is at variance with general usage in the industry and would perhaps bear explanation. The moving average is in effect the weighted average cost. Since we carry control of weight by all items of inventory, we at the same time carry forward the cost of each week's purchases and each week's manufacture. Using the same set of data we have our inventory valued when posting is completed to the perpetual inventory record.

The only adjustments are balancing the book inventory to the physical taken once every four weeks. Tests have been made to compare this method with valuation at market and the variance between the two has, in our case, proved negligible. There is also no problem in reconciling market gain or loss in the period results. The principal reason for using this method, however, is that once the money has been spent for raw material, labor, etc., the original cost does not change and the true profit or loss realization is the difference in selling price and the actual cost delivered to the customer's door.

When we speak of actual cost, we refer to actual material cost plus the customary additions of standard conversion cost. One deviation we use from the method described is inventory, raw or finished, which is set aside for future use. This is priced at cost or market, whichever is lower, with any losses from market decline written off to a separate profit and loss account. At fiscal year closing, we use a basis of cost or market whichever is lower

GOOD FELLOWSHIP and good food are enjoyed by guests at the luncheon honoring the 50-year veterans of the industry who received their half-century gold service buttons in person.



with First In, First Out as the basis of application.

VALUATION OF SUPPLIES: This covers the area of all items given the general classification of supplies. It includes manufacturing supplies, shipping supplies, containers and wrappers, spices and ingredients, etc.

Two methods are used among the companies surveyed. The majority use replacement cost with a few concerns using actual cost on a FIFO or a moving storage basis.

TRANSFERS BETWEEN DEPARTMENTS: Similar to inventory valuations, transfer prices, when based on Chi-



REPRESENTATIVES OF Roegelien Provision Co., San Antonio, Tex., attending convention are: (left to right) G. L. Glaenzel, H. W. Schmid, W. Roegelien and August Roegelien.

cago market, are adjusted to local application by freight differentials and special trim. The use of market also applies in principle as it does for inventory being used



ON THE LIGHTER side (l. to r.) Charles Warmbold, Preservative Mfg. Co., Flemington, N. J.; Lewis Smith of Valleydale Packing Co., Bristol, Va.; Lorenz Neuhoft, III, Frosty Morn Meats of Clarks-ville, Tenn., and Ben Cook, and C. T. Holbrook (back to camera), both of Reelfoot Packing Co., Union City, Tenn., share a joke.

when cost is not ascertainable. In some companies the commercial department involved prices transfers to other departments based on market or anticipated realization. In other companies this is used to a limited extent.

There are two basic differences in pricing transfers. One method uses market (or cost) as of time raw material enters the first stage of manufacture and carries that same value (adjusted for yields and expense) to the point of finished product. The other method uses market at the time of transfer to each stage of manufacture. Thus in



EXHIBIT HALL huddle shows W. A. Rose (back to camera) and L. J. McQueen of the Globe Co., Chicago, with Frank Crabb, Stark, Wetzel & Co., Inc., Indianapolis, Ind., and Conrad Legger of Intercontinental Packers Ltd., Saskatoon, Can.

the second instance if the market changed at each of five steps of processing the original product would be assigned different bases of market values at each step. Departmental profit and loss would likely show different results for each method.

Although transfers can be priced by lot, most companies value a full week's production, using a single price for the week. This is either the price as of a selected day of the week, a simple average of the week's market or an average weighted by daily volume transferred.

In departmental application here are some examples:

TRANSFERS

FRESH PORK TO
CURE

TRANSFER FROM
CURE TO SMOKE,
BOILED HAM, etc.

SMOKED MEATS AND
SLICING BELLIES.

RAW MATERIAL TO
SAUSAGE MANUFAC-
TURE

FRESH FATS TO LARD
AND INEDIBLE FATS..
P. S. LARD

DRESSED BEEF, VEAL
OR LAMB

HIDES AND SKINS....

PROCESSING DEPART-
MENTS TO SALES DE-
PARTMENTS, OR
OTHER INTER-COM-
PANY UNITS

BASIS OF VALUATION

Current market (Chicago carlot basis) reduced by expense not incurred when product is transferred rather than shipped (boxing, loading, icing, brokerage, etc.) with area differentials applied.

Green meat price adjusted for yield and expense. Green meat priced at either time of put down or take out.

Transferred out at cost or at market basis, day of transfer.

Market at current replacement cost.

At standard rendering yields and based on finished market value less rendering expense.

Transferred in at finished market value less rendering expense. Transfers out based on market value.

Graded carcasses transferred at test cost. Transferred to beef boning and beef cutting at local f.o.b. carload market, price set by local beef manager.

Transferred in on green basis, based on market value of cured hides adjusted by yield and curing expense.

Basis is usually current replacement cost (green market basis plus conversion cost). Conversion cost is defined as all cost except loading, selling and delivery. There are variations to this including markup plus conversion cost as well as reductions to take care of competitive market situations. Transfer prices are changed daily or weekly depending on product and market conditions. Consideration of the transfer price to sales is an important one. On the one hand is the problem of recovering the cost of the product on a current replacement basis, on the other the maintaining a transfer price that provides an incentive to sell and make a profit in the sales department.

Our purpose here today is for review of principles and their application to the subjects discussed. None of us is a proponent of his plan being the only one. Certain fundamentals must be followed and beyond that each company uses procedures to best suit its situation. It was with this thought in mind that the material was assembled for this discussion.

Allocating Overhead



Various methods of allocating expense which are employed in the industry are discussed and criticized by Cletus P. Elsen, controller of E. Kahn's Sons Co. of Cincinnati.

AFTER accepting Roy Stone's invitation to talk on the subject of "Overhead Allocation," I was reminded of that saying, "Fools step in where angels fear to tread." In accepting, I did not think it would be too difficult a task, as I would merely explain the method we use in overhead allocation. However, after having had an opportunity to study the preliminary draft of the survey conducted by the Institute on overhead allocation, I am almost afraid to express my opinion.

The survey proves, what we all know, that there is no uniformity in the method of allocation and there is no uniformity in what is included and what is excluded from overhead.

After studying this report I became more and more confused. The wide variation in accounting practices poses questions as to what the effect might be on the individual company and on the industry as a whole. Certainly there is a great deal of leeway for differences of opinion; however, when expenses are allocated on a basis which is not supported by logic or good accounting practice it is bound to have an effect on costs, selling prices and profits. And, going one step further, unrealistic or unsound accounting practices on the part of individual companies cannot help but have an adverse effect on industry results. Effective competition depends on the availability of market information, and if buyers are misinformed because of poor accounting information, chaotic market conditions may almost certainly be expected.

There are two aspects to the overhead problem: 1) The economic effect, and 2) The accounting problem. Before discussing the accounting problem, I would like to briefly touch on the economic effect of overhead in the meat packing industry.

In many cases management has failed properly to understand the problem. Many companies are obsessed with the belief that volume is necessary to reduce overhead cost. One of the worst curses in the industry has been the belief in the theory that industry needs volume to operate at a profit. Companies are volume-conscious and not cost or profit-conscious. They strive for that extra volume, thinking in terms of reducing overhead costs, and end up by reducing their sales prices because the sales department thinks the extra volume is free of overhead. They forget it is a two-way street.

Increased volume may reduce cost; it may also re-

sult in surplus products which would have to be moved at a lower price. Furthermore, striving for additional livestock beyond the normal source of supply may result in paying more for livestock. I am not saying packers should ignore the potential profit resulting from increased volume. Nor am I saying that the philosophy of making sales on the basis of "what they contribute to overhead" is all wrong. I do say that if all packers set prices on this basis, losses are inevitable. This philosophy certainly has a dangerous influence on the industry. Why be satisfied with a contribution to overhead? We should want to have all our overhead returned, plus a profit.

Other industries are not ashamed to earn a profit, why should we be? This is what makes the job of management so important. It also emphasizes the importance of the task of the meat packing accountant to supply management with the information needed to make correct decisions. In most cases policies and decisions are made by top management on the basis of volume only, as all the accounting facts needed to make a correct decision are not available. Overhead allocation has been a major subject of discussion and study by the accounting committee of the Institute at each of its meetings during the past year. A special committee was appointed to study the problem.

INSTITUTE SURVEY: One of the recommendations of the committee was to prepare a form to be used in making a survey of the methods used in the meat packing industry for allocating overhead. This form was distributed to Institute members and replies were received from 68 of the members. The Institute is now in the process of tabulating the results of this survey and it will be distributed to the members very soon. The purpose of this survey was to determine the methods or bases of allocation for the various types of expenses. In addition, it attempted to determine how certain expenses were classified, whether they were classified as "Manufacturing," "Administrative," or "Selling." It is not possible to give a detailed report on the results of this survey at this time. Briefly, there is no uniformity in the basis used by the different packers to allocate expenses or in the classification of expenses.

The accounting problem consists of three phases: 1) What is overhead? 2) Basis of allocation, and 3)

Method of allocation to departments and to product.

The first question, "What is overhead?" may seem elementary; however, it is not quite so simple. Overhead is a catch-all phrase which really covers a multitude of sins or expenses. Its meaning is generally understood in a vague overall fashion. No two accountants in this room, if asked, would include the same set of expenses. Therefore, it is important first to find what

we mean by "overhead"—what we include or what we exclude. In order to know what to include we must know what is excluded.

Webster's definition is: "Those general charges collectively in any business which cannot be charged up to a particular part of the work or products, such as rent, insurance, depreciation, etc." This does not give us all the answers. Neither do accounting textbooks.

ILLUSTRATIONS AND EXAMPLES IN CONNECTION WITH TALK OF CLETUS ELSER ON "OVERHEAD ALLOCATION"

Expenses which are normally classified as "overhead" are:

1. General plant expenses.
2. General administrative expenses.

Expenses which we do not include in "overhead":

1. All direct expenses such as materials, supplies and packages which can be charged directly to a product or department.
2. All fringe expenses related to labor.
3. Shipping expense, order filling, etc.
4. Delivery expense.
5. Selling expense.

Labor expenses which we consider as department labor and do not include in overhead:

Labor which may be included in department payroll: Misc. indirect dept. labor, dept. clean up labor, rest period, clothes changing time, clothing and laundry allowance, overtime premium, guaranteed time, holiday pay, vacation pay, foremen's salaries, and sick leave.

Fringe labor items which we allocate to all departments on the basis of each department's (operating and service) dollars: Social security taxes, unemployment tax, workmen's compensation, welfare fund, group insurance, etc., pension expense, free gloves, frocks etc., and free lunches, lunch room loss.

BASIS NORMALLY USED TO ALLOCATE OVERHEAD EXPENSES:

Labor	{	Number of employees
		Direct payroll hours
		Direct payroll dollars
Sales	{	Weight sold
		Dollar sales
Investment	{	Sq. ft. floor space
		Cu. ft. space occupied
		Investment in machinery and equipment
		Investment mach. and eq't. less fully depr.
		Investment in building
		Investment in mach.. bldg. and inventory

Tonnage produced.

Test or estimated.

In addition to the above, companies

listed the following additional basis when replying on the Institute survey:

Payroll required for normal 40-hour week.

Job card.

Preceding month's production.

Per head.

Engineering survey of usage, meters, etc.

Per head.

Judgment of management.

GENERAL ADMINISTRATIVE EXPENSES:

Office salaries and wages, while normally considered as general administrative expense, are not treated as such by all packers. The small packer may keep only one account for office salaries, whereas the larger packer's office staff may be divided into departments, with a large number of persons performing such functions as invoicing, payroll, credits, etc. The Institute survey indicated the following breakdown of office salaries and wages.

SALARIES AND WAGES

Executive	{	These may be considered plant, selling or administrative.
Accounting Misc. office	{	Bulk of companies considered these as administrative.
Invoicing Sales analysis Accounts receivable Credit Selling Traffic	{	A great many companies considered these as selling expense.
Purchasing Personnel Payroll	{	A great many companies considered these as plant expense.

Other expenses which can be both selling and administrative and are separated in that manner by a large number of packers, while others classify the total expense as administrative are: Telephone, telegraph, postage and traveling.

COLLECTION EXPENSE AND BAD DEBTS:

The survey indicated about 50 per

cent classified as selling and 50 per cent as administrative.

Other expenses such as printing & stationery, tabulating equipment, office supplies, professional fees, legal, etc., association dues, periodicals, donations, licenses, etc., were generally considered as general administrative.

GENERAL PLANT OVERHEAD ITEMS:

Expenses which I would consider as general plant overhead items, and basis of allocation recommended:

Repairs, material and labor:

EXPENSE	BASIS OF ALLOCATION	
Indirect Labor — watchmen janitors etc., cleanup Superintendents Plant clerical	}	Labor
Depreciation bldg. and mach.		Investment
Insurance, taxes	}	Investment
Repairs, material and labor		Direct department involved when records kept —or on basis of investment.
Power plant expense Purchased electric Water, sewerage	}	Approximately 50 per cent of those reporting charged direct to department involved or have tests and estimate. About 20 per cent used labor as a base and others used sales and some square feet floor space.
Misc. such as industrial engineering, product control, laboratory, hospital, laundry, meat inspection, clean materials, etc.		Labor
Meat grading		I would charge directly to department involved.

What is right for one industry is not correct for another. Record keeping or accounting must be tailored to the needs of the company and supply the facts needed to enable it to operate and intelligently handle all competitive conditions which may arise.

HELPFUL EXHIBIT: An exhibit is shown on page 126 which will help not only to define what we consider overhead, but also the type of expenses that we exclude, as well as the different bases commonly used for allocation in our industry.

Some persons may consider all expenses not directly chargeable to product or operating department as overhead. I would rather subdivide them or classify them as listed on the exhibit. This exhibit also lists the costs which are related to labor, which are not uniformly handled in our industry.

It may be surprising to some of you to know that in some companies in our industry, and a majority of companies in other industries, practically all of the fringe labor expenses listed are included in overhead. In many companies they refer to direct and indirect labor payroll. Records are kept to show this separation. This enables the company to determine direct variable and fixed labor expense. The terms "fixed and variable expenses" are often associated with overhead and only tend to confuse the issue at this time.

Many of the smaller companies are unable to keep this detailed analysis of labor costs. I rather think in terms of departmental labor and feel that all expenses related thereto, such as the items shown on the exhibit, should be included in departmental expense. They may be carried in separate accounts or grouped as one account such as "labor burden." However, I do not believe they should be considered as overhead when allocating them to product cost.

There is no uniformity in the industry as to what is included in general plant or general manufacturing or general administrative. In addition, there are certain expenses which many of the large packers include in selling which are grouped in general administrative by many of the smaller packers. We again wish to refer to the exhibit which has been distributed, in which we point out many of these items classified as selling instead of administrative.

In our company we have one account for each of these expenses (except bad debts which we consider selling) in general administrative. However, we estimate the selling portion of these expenses and use a different base of allocation for these expenses than we do for other general administrative expenses. A separate unit cost is available and we include them in platform costs.

LABOR AS BASE: With regard to the various bases used for allocation of expenses, the most commonly used in all industry is labor. Use of labor for all classes of expense allocation is not practical in our industry. We must first consider the nature of our industry. We have the big packers, beef slaughterers only, pork slaughterers, sausage manufacturers, etc. Each can be considered as separate industries within the meat packing industry. Obviously, if the integrated packer is going to compete successfully against an exclusive beef killer, he must properly allocate his costs. Therefore, he cannot charge expenses and overhead of any other division to "beef." Expenses such as depreciation, insurance, taxes, etc.,

must be allocated on the basis of capital invested in equipment, buildings, etc., used in the beef operation. The same principle is applicable to sausage and smoked meat divisions of the business.

In the material distributed we have included a page for showing the most commonly used method of distribution. There are large numbers of different bases used to allocate expenses. The Institute survey collected figures on 11. They fall into three major categories, labor, sales and investment. No one base is satisfactory for all expenses. The specific conditions and factors surrounding the particular expense to be allocated must be considered before deciding on the basis of allocation.

A study of the percentage figures of a full line company showing each department's percentage of labor, of sales tonnage, of sales dollars, or of invested dollars, would reveal a maze of conflicting figures. They would show the impracticability of using one base for all types of expenses.

These variations are not surprising to an accountant who studies the allocation problem.

Time does not permit complete discussion of these variations. They are submitted only as food for thought or argument.

A few comments on each of the bases may be in order.

BASES: Number of employees, payroll hours or payroll dollars are all satisfactory labor bases and any one will undoubtedly give comparable results. One or the other may be more exact for certain expenses; however, most companies will choose only the one which is most convenient to compile the statistics needed to determine the percentage base.

The same results are not achieved in using sales tonnage as in using sales dollars. This is shown in the exhibit. Which one to use is again up to the judgment of the accountant. These bases are more commonly used to allocate selling and delivery expense. However, a surprising number of companies in the Institute's survey indicated they use sales dollars or pounds sold in allocating general plant overhead items.

Square feet of floor space, cubic feet of area and dollars of investment are bases most commonly used to distribute depreciation, insurance, taxes, building costs, etc. The ones used may be determined by the records available to the packer. They may not produce exactly the same results, but all produce reasonably satisfactory results.

Since in most states inventories are also taxable, it is the common practice to take the total investment in buildings, machinery and inventory as a base for allocating insurance and taxes.

A word of explanation regarding repairs and maintenance allocation may be in order. A large number of packers particularly the larger ones, keep a detailed record of each repair job, labor and material and the department where the job was performed. Consequently, their job is not too difficult. The smaller packer is usually unable to keep these records. Therefore the simplest and probably the best method is allocation on the basis of investment in buildings and machinery. Frankly, my experience over the years makes me question the advisability of allocation on the basis of job location as repairs and preventative maintenance are usually

concentrated on certain departments periodically, resulting in large maintenance charges in certain periods which may distort the P & L for the period.

SERVICES ALLOCATION: The problem of allocating power, light, refrigeration, water and sewerage, is always the prize problem of any packer.

No one rule can apply, as conditions in each plant must govern. These costs can be divided into four basic expenses: steam, power, refrigeration and water.

The accountant can usually develop some rough measure of usage by enlisting the aid of the plant engineer. Unit cost of each can be developed; for example, steam cost per 1,000 pounds, kilowatt hours for power, cost per ton for refrigeration, cost per 1,000 gallons for water and sewage. The area of refrigerated space and temperatures maintained can be arrived at and estimated refrigeration tonnage determined. The horsepower of motors, estimated time of operation, etc., can be used to determine kilowatt hour cost. A composite cost made up of all these expenses based on per animal or per pound can be determined, and used for subsequent periods. A more detailed discussion of this probably would be a good subject for future meetings of this type.

In thinking of expense allocation we must think not only of allocating expenses so as to determine departmental profit and loss, we must think in terms of allocating the expenses to product. This is modern accounting.

The most important point to consider is that the method used insures recovery of all expenses in the selling price of the packer's product. All expenses must be recovered. Depreciation, insurance, taxes, and other fixed charges are just as much an out-of-pocket expense as labor.

The task of allocating the numerous types of expenses to operating departments each month and determining new base percentages because of changes in volume and labor presents a huge clerical problem to the small packer accountant. He does not have a large staff of accountants to assist him and therefore shies away from a departmental system.

The smaller packer in this room is undoubtedly asking: "Can I, with a small office staff get this information without being overburdened with paper work?" I believe he can, and would like to make my recommendations.

How To Do It: The first problem is to keep a detailed analysis of expenses so that they can be logically distributed to operating departments and products. I have always looked for the simplest and easiest way to do any job, I like to call it being scientifically lazy. This task can be made comparatively simple and requires little clerical effort and still provides satisfactory results by the following method:

1. The establishment of a percentage basis for distributing the various types of expenses.
2. Preparing a budget or an estimate of expenses for the next year.
3. Allocating these budgeted expenses using the percentage basis established and determining a percentage base. The same percentage would be used each month for the group of overhead expenses instead of allocating individual expenses.

Purveyors Salute the AMI

A plaque in commemoration of the golden anniversary of the American Meat Institute was presented to the



association by Ellard Pfaelzer, vice president of Pfaelzer Brothers, Inc. (left in photo), on behalf of the National Association of Hotel and Restaurant Meat Purveyors.

The presentation was made to John F. Krey, vice chairman

of the AMI, who presided at the Monday morning meeting in place of Institute chairman J. M. Foster.

In his presentation, Pfaelzer said, "the great progress of the meat industry and the general acceptance of the products of the industry by the public are due in a real and large measure to the American Meat Institute."

"Also, not to be overlooked, is the fact that the American Meat Institute, as a trade association, has been many times cited and honored for its excellence and achievements. All in all, the American Meat Institute is not only a great institution, it is a most worthy contributor and active performer for the better life for all—in and out of the industry—and for the workers as well as the employers—and for all America."

I know this is contrary to the practice of those packers who change their base each month, depending on volume. Some packers may use the current month volume as a base. Other packers use the previous month's volume as a base for distributing the current month's expenses. The argument in favor of the budget method for each period is based on the theory that if, at the start of a tax period, the packer has a plant consisting of facilities which are capable of handling X number of head or pounds of product, based on the experience of the past three or four years, and estimated for the coming year, management can reasonably expect each division to process or sell this budgeted volume. On this basis each division will be expected to bear a fixed number of dollars of expense. Using this method each division will bear a fixed percentage of the overhead expenses each month, and the division that increases its production or sales would benefit by reduced costs.

Under the method of changing the base each month, if this same division increased its business its overhead would increase, and the division that lost business would have a corresponding decrease in cost. In other words, the division which increased sales suffered a penalty whereas the one which lost business profited by a reduction in its expense charge.

On page 129 we find the page compiled for use in the NIMPA accounting manual to illustrate overhead allocation. This actually represents the procedure which my company has followed for a number of years.

The departments shown are not all inclusive and

ALLOCATION OF INDIRECT EXPENSES — ESTIMATE OR BUDGET — YEAR 1955

	GRAND TOTAL	BEEF	HIDE	FRESH PORK	HOG CASING	LARD	CURING	SMOKED MEAT	SLICED BACON	COOKED MEAT	SAUSAGE	INEDIBLE	
1. Base for Unit Cost of Department	Sales Weight	Live Weight	Wt. Put Down	Live Weight	Head Killed	Production	Put Down	Smoked Wt.	Sales Weight	Sales Weight	Sales Weight	Sales Weight	
2. Base Weight	8,450,000	5,000,000	400,000	0,000,000	45,000	1,000,000	1,750,000	1,500,000	400,000	100,000	750,000	800,000	
3. Department	Basis for Expense Distribution	%	\$	%	\$	%	\$	%	\$	%	\$	%	
4. Depreciation Building	% Investment or Sq. Ft. of Space	20.6	975	1.5	71	33.1	1,566	.6	28	2.9	137	5.7	
5. Depreciation Machinery & Equipment	% Investment	4.884	608	.6	29	27.5	1,338	1.2	58	8.2	399	3.7	
6. Insurance & Taxes	% Investment in Building Machinery & Inventory	6.000	18.9	1.134	1.4	84	32.3	1.838	1.2	72	2.7	162	6.5
7. Repairs, Materials	Record of Use or Investment in Buildings and Equipment	20,000	14.5	2,900	.5	100	35.3	7,160	.9	180	5.6	1,120	4.6
8. Repairs, Labor		20,000	14.5	2,900	.5	100	35.3	7,160	.9	180	5.6	1,120	4.6
9. Miscellaneous Plant General	Payroll Dollars	13,000	28	3,640	2	260	32.1	4,173	1.2	156	2.6	338	2.8
10. Indirect Plant Labor, Clerical, Supts.	Payroll Dollars	12,000	28	3,360	2	240	32.1	3,852	1.2	144	2.6	312	2.8
11. Power Plant	Estimated Use	38,000		3,378		116		17,813		182		5,412	
12. TOTAL FOR YEAR		118,595	15.9	18,895	.9	1,000	38	45,000	.9	1,000	7.6	9,000	4.7
13. Unit Cost		1.40		.38		.25		.50		.22		.30	
14. General Administrative		150,000	28	42,000	2	3,000	32.1	48,150	1.2	1,800	2.6	3,900	2.8
15. Unit Cost				.84		.75		.53		.04		.39	
16. Interest on Investment		60,250	18.9	12,332	1.4	914	32.3	21,076	1.2	704	2.7	1,752	6.5
17. Unit Cost				.25		.23		.23		.017		.18	

Figures for Illustration Only

Figures for Illustration Only

figures used are for illustrative purposes only.

Line 1 shows the unit bases for each department.
Line 2 is the estimated or budgeted volume for

the period to be used in determining unit costs.

Lines 4 to 10 are typical grouping of expenses showing the different bases of distribution.

The total in column 1 is multiplied by the percentage shown in each department to arrive at a department cost. The total of each department cost

for all the manufacturing expenses is shown on line 12.

The percentage of each department's expense to the total is determined and also shown on line 12.

This percentage can be used to make one calculation for distribution of general plant expenses for the month instead of making separate calculations for each type of expense. It is not necessary to show on departmentals a separate allocation for all types of expenses such as depreciation, taxes, etc.; neither is it necessary to further add to the clerical work by determining a unit cost to the fourth decimal. The allocation is arbitrary in the first place and the department head has no control over it. In order to maintain control over individual expenses, that is the showing of increase or decrease, a separate report of each expense compared to prior accounting periods can be prepared. The fact that certain expenses may be up or down from the budgeted figure on which the base percentage was calculated is not considered important and would not make a great deal of difference on an annual basis.

The same principle applies to general administrative expense and it is shown separately on lines 14 and 15. Since there is no uniformity in classification of plant and administrative, and both should be included in figuring platform costs or product costs, these two could be combined. Some accountants desire this separation for figuring costs for inventory valuation.

We also call attention to line 16, where we show an allocation for interest on investment and a unit cost for the department. We do not figure this monthly or include it in our P & L for the period, but we do use it in figuring costs for the sales department.

PRODUCT COST: This illustration also shows the method for determining the department unit cost used for figuring product cost. In my opinion this is the most important calculation. I feel that it is more important to develop figures to know what you are doing on a day-to-day basis, as allocation of expenses to the product departments after the close of the accounting period only reveals profit or loss which proves what you should have known during the period. Here, too, we have a decided difference of opinion.

In the illustration we used the simple method of dividing the production of the department (line 2) into the estimated expenses of the department for a year, (line 12) to get a unit cost. This would be the base unit cost, used in figuring the cost of all products processed in the department throughout the year. Adjustment will be necessary throughout the year to reflect any increases in cost such as labor increases. Changes in unit costs resulting from differences between actual expenses and estimated expenses and actual volume and estimates should be made throughout the year.

There are other variations in this method which some accountants feel are necessary to secure accurate results.

One problem consists of the fact that some products are produced in a department which requires more labor production time than others. Some accountants do not feel that a single department rate is satisfactory and that those products that incur additional labor in manufacture should carry a higher overhead rate. For example, sheep casing breakfast sausage uses more labor and therefore should carry a higher rate than 6 lb. fresh pork bags. The 6 lb. fresh pork bags should

carry a lower rate than a 6 lb. bologna which not only requires extra chopping and smoking labor, but also uses considerable additional equipment. There are merits to both sides of the argument. Personally, I would agree that there is justification for a separate rate for fresh and processed sausage. It all depends to what extremes you want to carry your cost accounting. To illustrate, order filling costs are usually carried as an average cost per cwt., yet it obviously costs less to fill an order with a 12 lb. box of sausage in it than the same order with a 3 lb. box of sausage. I have personally favored one rate for the department.

Some accountants would distribute overhead expenses to the producing departments using a fixed unit cost, determined on the basis of estimated expenses for the year and estimated volume. The expense charged to the department for the period would be determined by multiplying the production for the month by this fixed unit cost. If this results in more or less than the actual expenses, they show an over or under absorbed overhead figure. The effect of this would be to charge a greater amount of expenses to operations than was actually incurred in periods of high volume, thereby creating a profit reserve which would be dissipated in periods of low volume, as during these periods a smaller amount would be charged to operations than actual.

I think it sufficient to say the majority of the members do not use in the general books a method that doesn't reflect actual costs incurred in that period.

We must consider and respect the opinion of others on this subject, but if poor accounting methods are actually causing unnecessary losses to those using them, it should not be inappropriate to call attention to this fact. Many companies do not now have adequate accounting information. Many other companies have such information but apparently the coordination between the accounting departments and the buying and selling departments is not good. Lack of accounting information or inadequate accounting information or failure to make intelligent use of available accounting information not only can put a company at a competitive disadvantage because it is not recovering its costs in the selling of its products or allowing for its costs in determining what it can pay for livestock, but also can result in that company contributing to unsatisfactory market conditions.

I have always felt rather strongly that the hog test should reflect the actual cost of killing and cutting hogs during the current accounting period. The expense used should not be based on the average for the year.

The only way the industry will ever get out of cutting losses is to recover all expenses during periods of light receipts as well as they do during periods of heavy runs. Acceptance of any other theory by the accountant is negative thinking. We should not be influenced by the historical philosophy of the old timers. It is up to us as accountants to stand our ground, figure our costs so that both the buying and selling divisions of the business are constantly on the alert.

Every cent of our costs must be recovered. The names we call expenses are relatively unimportant. Whether they be fixed or variable, selling or delivery, direct or indirect, burden or overhead, all at the end of the year are out-of-pocket expenses and must be recovered.

The Break-Even Point



J. R. HINSEY, controller of John Morrell & Co. and chairman of an AML accounting subcommittee, reports on a study on the application of the break-even point in the meat packing industry.

THE break-even point, like the weather, is much discussed with many pros and cons, but very little seems to be done about it. Some call it theoretical; others say it is practical. Everything that follows is out of personal experience.

My first acquaintance with the break-even point came almost 50 years ago. In our town in Iowa a German cigar maker got involved in a heavy advertising program for his 3-Star cigar. His name was Julius Fecht. After his campaign became successful and 3-Star cigars grew in volume and popularity, a friend asked Julius one day, "How are you making out on your big advertising program?" Julius' reply has become legendary: "I lose penny on every cigar, but I make my money on the *wolume*." Julius had never heard of break-even point, but he knew from his own real experience that there had come a time where the unit advertising expense, included in his cost, fell off sharply and profits began.

How many of us here are including unit overhead expenses in cost computations that later on become profit after the break-even point is reached?

In our subcommittee on accounting there were differences of opinion on this subject. When I used the expression that "the break-even point marks the end of losses and the beginning of profits," I was challenged because there are some who believe that expenses never stop. But, surely, there has to be a point where what you take in passes the amount you pay out? The break-even point can be defined as that point where fixed expenses are fully recovered and profit increases with volume.

The basis of a break-even point involves classification of expenses into "variable" and "fixed." For the most part, variable expenses increase with volume, while fixed expenses remain fairly constant regardless of volume. When you start to classify expenses you will find in some variable costs an element of fixed expense, and likewise, some fixed expenses have an element of variable; but this should be no stumbling block. Life is not so simple that we can classify everything into two categories. As you study the nature of expenses, you will develop a feeling for proper classification. An expert on this subject gives this helpful definition:

"Certain expenses are the costs of *doing* business; these are variable. There are other expenses that are the cost of *being* in business; these are fixed." If we can get this concept, we can make a good start at proper classification of expenses—the expense of *doing* business and the expense of *being* in business.

XYZ SAUSAGE CO.: Our committee set up an example of the XYZ Sausage Co. to show a pattern of how expenses may be classified. (See Table 1.) The expenses of a sausage operation are indicated in a rough way to illustrate the difference between "variable" and "fixed" expenses: Direct labor is variable. Supervision is fixed. Fringe and employee benefits are a mixture of both. As for power, fuel and refrigeration, part of this

TABLE 1: CLASSIFICATION OF EXPENSES FOR XYZ SAUSAGE CO.

Department Expenses:	Variable	Fixed	Total
Direct labor*	\$12,000	\$2,700	\$14,700
Indirect labor	—	500	500
Supervision	—	1,300	1,300
Overtime premium	—	200	200
Fringe and employee benefits (incl. social security)*	2,500	700	3,200
Depreciation	—	1,100	1,100
Taxes and insurance	—	275	275
Power, fuel & refrigeration*	300	775	1,075
Repairs and maintenance	—	800	800
Plant overhead expense	—	3,000	3,000
Selling Expense*	200	4,100	4,300
Administrative Expense	—	2,600	2,600
	\$15,000	\$18,000	\$33,000

*These expenses may be partly variable and partly fixed depending on the circumstances in each department. Variable expenses change with volume while fixed expenses are a function of time.

has to do with volume; the other part is a cost of being in business. This also applies to repairs and materials and the whole area of plant overhead. Selling expenses are partly variable and partly fixed, whether they be salary for salesmen or commission.

Then we drew up a simple profit and loss statement for this same XYZ Sausage Co. to illustrate how profit and loss information can be presented to those who must work with it as their most important source for helpful information. I plead for those who find so many blind spots in statements furnished by the accounting department. There seems to be an area of incomunicado between us accountants and those who must use our figures as a basis for diagnosis and prescription, so next look at the P & L statement (Table 2, next page).

You will notice sales of 400,000 pounds on which

the XYZ Sausage Co. realized 36.25c per cwt. and wound up with \$.50/cwt. profit. Did XYZ make \$.50/cwt. on 400,000 lbs. or did it make \$10.00/cwt. on the 220,000 lbs. over and beyond its break-even

TABLE 2: P&L STATEMENT, XYZ SAUSAGE CO., AT END OF APRIL, 1956

	Weight 400,000#	Amount \$145,000 (6,000)	Per cwt. of sales \$36.25 (1.50)
Net Sausage sales			
Delivery expense			
Net sales f.o.b. plant		\$139,000	\$34.75
Cost of Sales			
Meat and ingredients	382,000#	\$76,000	\$19.00
Package and processing supplies		8,400	2.10
Beginning inventory	30,000#	7,500	1.88
Ending inventory	(32,000)#	(7,900)	(1.98)
	380,000#	84,000	21.00
Gross margin before expense		\$ 55,000	\$13.75
Variable Expenses			
Direct labor		\$12,000	\$ 3.00
Fringes & employee benefits, Social Security		2,500	.62
Power, fuel, refrigeration		300	.08
Direct sales expense		200	.05
		15,000	3.75
Contribution to Fixed Expense & Earnings		\$ 40,000	\$10.00 (B)
Fixed Expenses			
Direct labor		\$ 2,700	\$.68
Indirect labor		500	.12
Overtime premium		200	.05
Taxes & Insurance		275	.07
Power, fuel & refrigeration		725	.18
Repairs & maintenance		800	.20
Plant overhead		3,000	.75
Supervision		1,300	.32
Fringe employee benefits, Social Security		700	.18
Depreciation		1,100	.27
		\$11,300	\$ 2.82
General Selling Expense		4,100	1.03
Administrative Expense		2,600	.65
		18,000 (A)	4.50
Net Profit in Sausage Dept.		\$ 22,000	\$ 5.50

Referring to the two factors (A) and (B) designated in the above statement, the break-even point is \$18,000 (fixed expense) (A), divided by \$10.00 cwt. (rate of contribution to fixed expense) (B), = 180,000#.

point? This is an important interpretation for those operating the business; first, because it tells how much business must be done to recover fixed expense and what profit can be expected as volume increases toward capacity. This presentation of the profit and loss statement, first of all, shows the value added by production. Let us call it "gross margin." Then come the variable expenses, and then follows the important figure—the rate of contribution to fixed expense. In this statement the rate is \$10.00/cwt.; let us call it "marginal profit." Additional volume will continue at this rate of contribution.

Going on down the statement you will see a total of \$18,000 of fixed expense that must be covered before XYZ can make a profit. An easy way for the sausage manager to determine his break-even point is to divide the \$18,000 of fixed expense by the marginal profit ratio of \$10.00/cwt.; the answer is 180,000 lbs. Here is the point where profit began. Up until that point the business had been operating at a loss.

This introduces the time factor as the third dimension to a profit and loss statement. It provides a concept of when things happen. This style of presentation gives the manager a "do-it-yourself project." He can easily compute the answers to at least two questions: "When did I begin to make a profit?" and, "When did the overhead factor in my sausage tests finally turn into a profit."

BREAK-EVEN CHART: This same information can be plotted on a chart. (See Chart 1). The volume is charted horizontally; expenses are measured vertically. You will notice the variable expense starts at \$18,000 on the vertical axis and continues straight across regardless of volume. The sausage manager, regardless of what he does, is charged \$18,000 fixed expense even at zero volume. The variable expense is charted on top of the fixed and this comes to a point indicated by the arrow. Sales revenue expressed in terms of gross margin over and above total expense plots a dotted line, starting at zero, and where the two lines cross the break-even point is established. As volume is extended upward, net profit widens to the point of capacity.

You may attack this approach as too simplified, but considering it from the standpoint of the manager struggling with the problems of cost, expense and volume, it helps to tune his thinking in terms of time and momentum. Look at it this way: When you get in a plane and go to the end of the runway, the pilot applies the brakes, feeds gas into the motors and creates tremendous thrust power. He must keep building up that power after the plane begins to roll until thrust power overcomes gravity. That is the pilot's break-even point. In the same way, the break-even point concept gives a certain dynamic of motion to those who work with figures.

Now you may say, "It is impossible to apply a break-even point to an entire plant operation," and, generally, it is agreed that the departmental approach is better; but, we had an actual experience of study for over a year that demonstrates the value of measuring fundamental tidal forces. Let me illustrate our experience in this manner:

This concerns a pork plant. At a certain time the rate of slaughter was cut sharply because of poor cut-

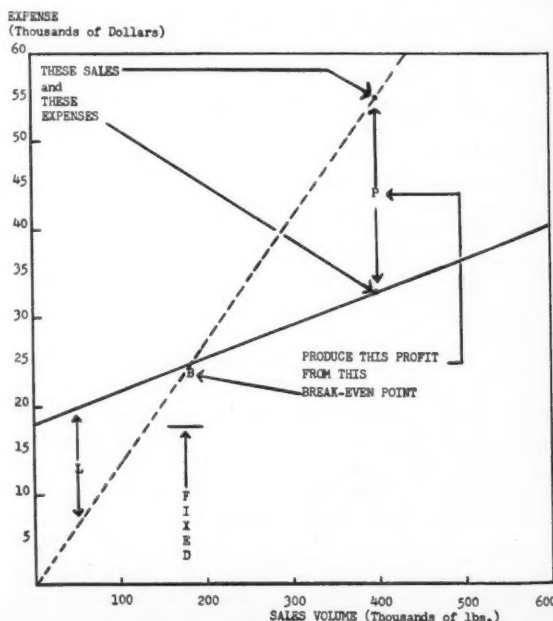


CHART 1

out. As a result, the volume fell off 40 per cent and the month showed a loss of \$100,000. You can imagine the thud when the P & L result became known. So, what to do about it?

The entire operation was studied in terms of break-even point. A certain uniformity of plant operating margin hovered around \$4.10/cwt. For several months the ratio showed remarkable uniformity. Then we

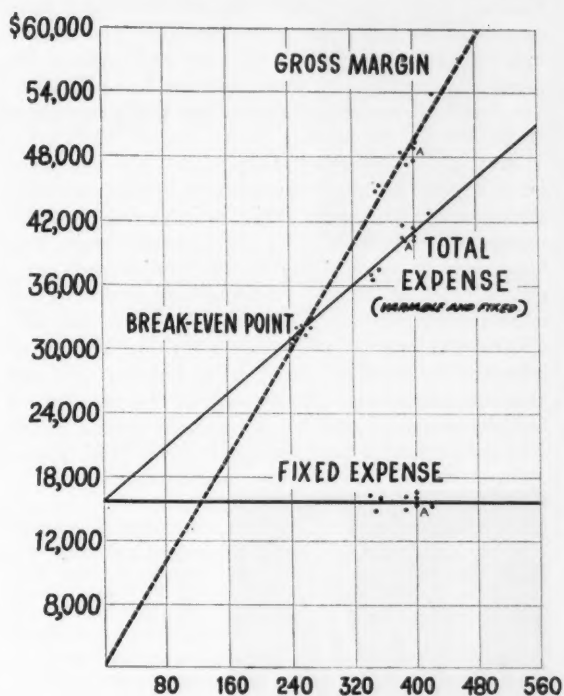
TABLE 3: P & L STATEMENT, SAUSAGE DEPARTMENT, FOUR-WEEK PERIOD (ACTUAL OPERATION)

	Per Cwt.	Weight #	Amount
Sales and Shipments	\$36.79	1,556,677	\$572,713
Delivery Charges	(1.60)		(24,953)
Net Sales Income	\$35.19		\$547,760
Cost of Sales			
Materials used		1,380,666	\$297,456
Edible & curing supplies		33,722	15,008
Packing & processing supplies			42,610
Inventory at beginning		289,699	64,020
Inventory at close		(217,274)	(66,847)
Total Cost of Sales	22.63	1,486,813	352,247
Gross Gain (Value added by production)	\$12.56	69,864	\$195,513
Variable Expenses			
Production foremen	\$.28		\$ 4,432
Plant wages	4.68		72,793
Overtime penalty	()		5,476
Fringe payments	.67		2,883
Social Security taxes	()		2,058
Power refrigeration	.25		3,895
Miscellaneous	.15		2,240
	\$ 6.03		
Commissions	()		2,397
Advertising & samples	.63		4,468
Travel expense	()		3,065
Total Variable Expenses	\$ 6.66		103,707
Marginal Profit (Contribution to Overhead)	\$ 5.90		\$ 91,806
Fixed Expenses Prorated			
Depreciation			\$ 4,370
Taxes and insurance			708
Power, fuel & refrigeration			3,002
Repairs and maintenance			6,756
Plant overhead			2,076
Services and general supplies			24,678
	\$ 2.67		\$ 41,590
General selling expense			\$ 12,305
General administrative expense			3,623
Corporate administrative expense	1.26		3,674
			19,602
Total overhead (fixed expense)	\$ 3.93		\$ 61,192
Net Profit	\$ 1.97		\$ 30,613
Break-Even = 61.192 ÷ 1,037,152# per mo. = 259,288# per week			
Margin of Safety = 389,169# avg. sales per week			
259,288			
129,881# x \$5.90 cwt. = \$7,653 x 4 = \$30,613			

studied it far enough back to indicate a basic law of averages at work in this plant. Total expenses were reclassified, but it seemed certain that if \$4.10/cwt. persisted it would be necessary to sell 1,600,000 lbs. a week to break even, and the attempt was made. A month later the volume actually reached 1,500,000 lbs. per week. The \$4.10/cwt. magic ratio continued and the previous heavy loss was shaved to \$10,000. It seemed that we were on the right track. Out of this same diagnosis came the challenge that if break-even volume were not obtainable, then there would have to be drastic improvement in the product assortment to obtain higher marginal profit ratio.

What has happened in the meantime? Here are the facts and figures: A year has gone by. The fixed expense has increased because of wage increases, but the marginal profit ratio improved to \$4.29. The break-even point has remained constant at 1,578,000 lbs., and the total volume has averaged 1,588,000 lbs. The profit for the operation is \$20,000. It figures out so

CHART OF A SAUSAGE DEPARTMENT



TONNAGE VOLUME PER WEEK
CHART 2

mathematically correct that it seems too pat; but, we take comfort in the fact that there was some basic validity to the diagnosis that points up the direction for improvements necessary for improved profit. This is one reason why I repeat: The marginal profit ratio is a very key figure in the diagnosis of your operations, once your expenses are classified according to a logical basis of *being* in business and *doing* business.

ACTUAL SAUSAGE OPERATION: Now I would like to show how the break-even point has operated for a certain sausage department (See Table 3). Here is an actual P & L statement for a four-week period, and later you will see its application to a break-even chart. This represents our favorite method for presenting P & L figures to departments. We follow this general pattern: 1) Gross margin representing the value added by production before any expense; 2) Variable expense, 3) Marginal profit, 4) Contribution to overhead, and 5) Prorated fixed expenses.

The sausage manager's prorated expense is fixed, a matter entirely beyond his control. In this P & L you see fixed expenses of \$61,000 divided by a marginal profit ratio of \$5.95. This indicates a break-even point of 260,000 lbs. per week. The sausage manager can see from this that his profit of \$30,000 came from the 130,000 lbs. by which he exceeded his break-even point.

Let us now see how the results for nine months compare with the average per month on a break-even chart. The conformity of monthly performance is quite revealing. (See Chart 2.)

Notice the line that represents "average fixed ex-

pense"—\$15,600. The ascending solid line represents "average total expense;" the dotted line represents "average total gross margin." Against this line I have pinpointed the experience of the individual nine months in a scatter pattern to show the close conformity of the monthly averages to the yearly average. You will notice the cluster of dots around the average break-even point of 260,000 lbs. per week.

HISTORICAL MARGIN RELATIONSHIP: At this point let us consider another objection to a break-even point, the contention that great variation in product mix disturbs the result even on a departmental basis. You know how it varies: Liver products enjoy wide margin, as much as \$15/cwt.; bologna and frankfurts are more competitive, and in between are loaves and specialties. Obviously, shifts in assortment could sharply influence the marginal profit ratio; but how did our assortment behave? In this example of nine months, we find the marginal profit ratio gravitates around \$6.00. The actual year-to-date average is \$5.90. This repre-



THOMAS E. WILSON, retired chairman of Wilson & Co., and **Prof. H. R. Smith**, retired, National Live Stock Sanitary Committee, who worked together in tuberculosis eradication, take time out to pose for the cameraman.

sents all seasons and holiday peaks. And instead of wide fluctuations, we find an underlying traditional margin relationship in the sales of this department.

Another plant shows an equally historic margin ratio of \$7.25 with a lower break-even point. Its gross margin is greater because of an abiding difference in assortment, but the point is this: You can analyze the reasons by studying the product assortment of your operations, noting margin relationships, seasonal and monthly. I think you will be surprised to find a definite pattern of historical relationship. The fact of these forces and the persistence of averages makes the break-even point practical for your application. It is also practical for other processing and manufacturing departments of your business, and as each department successfully covers its prorated overhead, your total



ONE OF GAY cocktail parties held during the annual meeting.



THE SERIOUS EXPRESSIONS on the faces of the four men here indicate that they are not "sitting down on the job."

business becomes the sum of its profitable parts.

This kind of presentation helps us to talk with departmental managers in a way that increases their faith in the validity of tidal forces expressed in averages. If time permitted, we could show a similar relationship in a hog killing and cutting operation.

Even though there are great variations in margin due to the fluctuation between live hogs and pork values, there is still a definite persistence between fixed and variable expenses. Suppose the daily short-form test shows \$17.20 to be the net cut-out value of 250-lb. hogs compared with a live market of \$16.20 on the same day. The provision department manager immediately sees \$2.50 profit per hog. He might say, "20,000 hogs this week will make \$50,000." But, what will the P & L show? Let's see how it figures on a break-even basis. Behind the \$17.20 is an overhead rate of \$.59, which added to the \$1.00 makes a marginal profit ratio of \$1.59/cwt. This becomes \$3.98 for each 250-lb. hog; 20,000 hogs will produce a marginal profit of \$79,600, before fixed expenses.

The actual fixed expense is \$38,600 in the hog kill and cutting department. When this amount is subtracted from \$79,600, you find that instead of making \$50,000 on 20,000 hogs, you make \$41,000. This is the figure that will come out of your P & L. The stumbling block is the difference between overhead rates as a constant factor in costing or in pricing, and overhead dollar amounts that are fixed but are also amenable to volume. You can carry the illustration further to show that once you have passed 25,000 hogs, the break-even concept shows greater profit than straight multiplication at \$2.50 per hog.

Gentlemen, I claim nothing new for this presentation. I came here to plead for those who expect from the accounting department some helpful diagnosis of their figures each month. I can only hope to stimulate an interest in this subject so that when this bulletin comes out as a result of our deliberations, you will study the bibliography.

Get back to the source material, study what all the real experts have to say about it. It may take you into higher realms of mathematics than you may care to go, but if I have been able to help you apply the break-even point in a simplified method, then I have accomplished my mission on this occasion.

Research for Survival



MEAT INDUSTRY must continue to dig scientifically if it wishes to survive, asserts Dr. H. E. Robinson, director of laboratories for Swift & Company, Chicago.

THE meat industry has always made extensive use of research. The basic components of the raw materials of the industry are proteins, fats, vitamins and minerals. The highly complex nature of proteins introduced so many problems for scientists in the early days of the industry that a very great percentage of industry processes were considered in the realm of an art. The men who were responsible for the manufacture of table-ready meats and sausage and for the curing of hams and bacon almost inherited their knowledge from their fathers and did not proceed by any clear-cut rules of biology or chemistry.

It is only in the last few decades that progress in food merchandising, changes in consumer demand and advances in science have made it possible largely to eradicate the art and the rule-of-thumb from meat processing. Over the years, specialty products, industrial by-products and associated side lines of meat-derived products have become increasingly important in meat packing industry progress and profits. Naturally, it is in these fields that the scientists associated with the industry have most frequently made their contributions.

Actually, a spirit of research was behind the great accomplishments of the fabulous early-day leaders in the meat packing business. The problem of successfully moving processed livestock from the Midwest to the major eastern markets was solved only by great far-sightedness and successful research on refrigeration. The greatest of all the achievements was the development of the refrigerator car and the recognition and promotion of the principle of low-temperature handling of meats. Another major research advance which, in turn, cannot be credited to men of specific scientific training was the development of the unique disassembly line, certainly a forerunner of the assembly lines of the automobile industry of today. Only by such an unusual development of efficiency in labor was the industry able to expand and survive the extremely low profit margins obtainable for the procedures of slaughter, hide removal and preparation of the whole carcass for shipment to retail markets.

MEN OF VISION: It has been said that all successful pioneers of great industries have been men of vision and ideas who could have been great scientific researchers. There were some scientifically trained men established in laboratories in the meat industry prior to 1890. One of the recognized founders of the modern science

of food technology was Dr. W. D. Richardson, chief scientist for Swift & Company until 1932. Men such as he established the value of process and product quality control by chemical and physical means throughout our industry. They also began the never-ending research struggle against bacteria in the race to see who won the toods which the industry processed and created. They originated the concept of the friendly bacteria which helped to develop the flavors of various sausage products and cured meats such as hams and bacon.

We can take time only for a few, but there are a thousand references to the accomplishments of research in the meat processing industry; volumes can be written about the new products created and the public services rendered.

A major contribution of the scientists of the meat processing industry has had to do with the development of the hydrogenation of fats and oils. Strange as it may seem in today's markets, the original standard for shortening use was pure lard. Sometimes a little cottonseed oil was mixed with the lard to make a less expensive substitute. Finally, the process of hydrogenation was undertaken with such thoroughness that the cheap substitute became the master and hydrogenated cottonseed oil definitely became the preferred shortening on this continent. Research must be given the major credit for this turntable sort of affair, and it was the meat processors' research men who had to adopt and adapt the procedures of hydrogenation to permit survival in the shortening field.

The original major virtue of the hydrogenated products was the greater stability which such processing gave them against rancidity. Gradually, superior baking and frying qualities were built into these new shortenings and lard stood on its lone virtue of superior shortening powers for pies and crackers. Almost 30 years ago, Dr. R. C. Newton and his colleagues determined that they would do something to bring lard back to public favor and away from the ill-repute which it had gained with the housewives and bakers of America. The major problem was to effect a cure of the curse of quick oxidative rancidity.

The solution of this problem set a new standard of achievement in two ways: First, the specific compound which was found to make lard commercially resistant to rancidity, gum guaiac, opened the door to approval of antioxidants for lard by the U. S. Department of

Agriculture after a long and arduous struggle. Second, the toxicity studies which were run on gum guaiac by the late, great physiologist, Dr. Anton J. Carlson, are a model of thoroughness in toxicity evaluations for a food additive to this very day. Naturally, this research has been extended and perfected; gum guaiac is no longer in the picture and there have been major findings about new antioxidants by Dr. Henry Kraybill and his staff of the American Meat Institute Foundation. Dr. Karl F. Mattil and others have brilliantly solved the functional deficiencies of pure lard as compared to hydrogenated vegetable oil shortenings by discovering and perfecting the crystal modification of lard.

INDUSTRIAL USES: Research has found new ways and means of utilizing the waste fats, tallows and greases of the meat industry for industrial purposes. Armour and Company, under the able research leadership of Victor Conquest, has made a specialty of valuable chemical substances derived from fatty acids which are used in the mining, metals, petroleum and other industries. Our own research team has in the last few years pioneered a new venture in the industrial processing of meat fats not for edible purposes by modern chemical methods adopted from the petroleum industry. This continuous chemical treatment of waste fats to produce valuable and essential products is a research-directed step in the modernization of by-product treatment in our industry.

We all know the dynamic and well-nigh miraculous qualities of the new drugs derived from the glands of slaughtered meat animals. It is probably unnecessary to recall the vital role that insulin has played in revitalizing and protecting the life of so many hundreds of thousands of our people. ACTH, whose concentration and medical utilization was pioneered and promoted by the Armour Research Laboratories, has led to many of the great research accomplishments of this century. Related hormones or derived products are now utilized for their better health and comfort by millions of people who had no recourse to such miracle materials prior to these research accomplishments.

Research leading to the establishment of the product, meats for babies, opened up a tremendous new market to the industry and has further established meats in the highest standards of good nutrition. Since earliest days, the protein by-products of the meat industry, tankage, meat meals and meat scraps, were found to be of tremendous value in the feeding of livestock. Meat industry research workers have contributed consistently to the major accomplishments of better nutrition for livestock and poultry, including the high energy rations developed in the past 15 years which have had a sensational effect on poultry raising and use of poultry by the American public. Canned dog food of excellent nutritional quality was pioneered and perfected by meat industry researchers. Millions of pounds of meat by-products are utilized efficiently in these foods yearly.

Even 25 years ago, when your speaker first entered this industry as a green nutritionist fresh from the University of Pittsburgh, there was considerable skepticism by medical men and nutritionists as to whether meat had real virtue in the diet other than for its appetite appeal and satiety value.

MEAT'S VIRTUE PROVED: Nutritional research on meats sponsored by the National Live Stock and Meat Board and by individual meat companies and work in

Warehousemen Honor the AMI

The American Meat Institute received a special tribute from the National Association of Refrigerated Ware-



houses in observance of the Institute's golden anniversary. A plaque "in recognition for outstanding contributions to the diet and health of America and Americans" was presented to John F. Krey (left), vice chairman of the Institute's board

of directors, by William E. Keady, treasurer of the association of warehouse operators.

Said Keady, who also is vice president and treasurer of Indiana Terminal and Refrigerating Company, 240 South Pennsylvania Street, Indianapolis, Indiana:

"Through your constant research, improvement of industry products, and promotion of the economic development of the meat industry you have not only met the needs of an expanding population for meat products, but have helped make possible an increasing per capita consumption of this vital, health giving product.

"Over the past 20 years the per capita consumption of meat has increased by 25 lbs. and this has been accomplished in the face of a population increase of 34,000,000. To meet this challenge your industry is today producing 10,000,000,000 more pounds of meat every year than 20 years ago.

"Your contribution to the health of our people is a vital one because meat is a mainstay of the American diet and a rich source of protein, B vitamins and iron.

"These are outstanding accomplishments."

the companies' laboratories permanently banished any concept that meat was anything other than highly desirable for optimum nutrition. The findings of Dr. Elvehjem and co-workers at the University of Wisconsin on the protein and vitamin virtues of meat products formed a sound scientific background for the excellent and highly successful educational advertising on meat in nutrition which has been carried out during the past several years by the American Meat Institute.

Again, if we go back only 25 years, we find that the processing times for cured meats have, through science, been reduced from many weeks to the current practice of a few hours from the green ham to the marketable product. The tenderized ham pioneered a new era in acceptance of this product by the American public.

Enough of the past and the present—what of the future? Research in this industry must be more concentrated than ever on the establishment of automatic and continuous processing, particularly in the manufacture of sausage products and table-ready meats and in the processing of hams and bacon. Even automatic and continuous boning and cutting operations of whole carcasses is not today an idle dream. To the research man "operation survival" for the meat processing industry must hinge upon the successful solution of offering

[Continued on page 171]

Swift's Robinson on Research

[Continued from page 136]

the American public individually packaged, short-time preparation meat cuts of all kinds and varieties that consumer's might want.

The meat processor can do this job most efficiently and with the best use of the by-products of such an operation. It is a well-established fact that Mrs. America today wants appetizing and quick to prepare meats, whether they be steaks, chops, roasts or specially pre-cooked items such as meat pies, barbecued spareribs or a host of other delicious concoctions. Today's homemaker wants to prepare a meal that would make her mother's mouth water in a total time, from refrigerator or freezer to actual serving on the family's plates, of not more than 30 or 40 minutes. This is only a continuation of the demand that resulted in the conversion of the long standard sausage and table-ready meats industry to individually sliced vacuum packages instead of market slicing or sale by chunks.

NEW FRONTIERS: Research is rising to meet these problems. You all are familiar with the process which has been called "cold sterilization" or irradiation of bacteria by beta or gamma rays. Its investigation was pioneered in our laboratories about seven years ago. The successful adaptation of this process would answer a great many of the salable life problems of fresh packaged, individual meat cuts. The process is scientifically sound for the destruction of bacteria, but it will probably be a long time before its unfavorable side reactions on flavor and color can be successfully overcome for commercial usage. Another great aid in prolonging the salable life of fresh meats which is demanded by modern marketing methods is the promise held by the use of antibiotics. One product is now being used on poultry.

Research will soon find a number of others which will successfully meet all requirements and be utilized for all types of meats. We must all—research, manufacturing and sales—become much more alert to the necessity for modernized manufacturing and merchandising methods to establish our industry in its proper profit picture beside the other food products. Automation, new product ideas and progressive merchandising will provide the answers. Batch methods of processing and marketing by carcass must be eliminated as rapidly as research can lead the way.

There is one other subject that has a vital bearing on the future of our industry that deserves mention in a glance ahead. You will hear discussions on the question of fats in the American diet during this meeting. You have, no doubt, followed with great interest the current



FOYER LEADING to Red Lacquer room is scene of overflow crowd as engineering and construction session adjourns Saturday a.m.

conflicting statements from a great many medical and nutritional laboratories and the occasional confused reporting in the lay press about the seriousness of the question of fats in the diet as it is related to the health of the individual.

A thorough survey of all published data on the relationship of fats to the blood vessel impairment called atherosclerosis leads your speaker to believe that the only statements about the question of a comparison of fats in the diet, fat content in the diet, and the potential harmful contributions of too much fat in the diet, that can be made without contradiction, are somewhat in the following vein:

1. Any attempt to classify fats as to nutritional virtue in relation to heart disease is extremely premature. Do not accept any comparisons at this time.

2. There appears to be a definite trend in the United States toward acceptance of the fact that a rather large number of our people are harmfully overweight. Too many in sedentary occupations still retain the eating habits of their farm and lumberjack ancestry. When caloric intake is lowered to achieve weight reduction, the amount of fat consumed must also be lowered.

In closing, a prediction is offered: Consumer demand is forcing the marketing of leaner meats. Meat-type hogs soon will supersede the super-fats. Beef will have to follow the same pattern to avoid economically unsound trimming losses. Research can and will lead the way to new processes, products and methods in "Operation Survival" for the meat processing industry.



ARCTIC EXPLORER Vilhjalmur Stefansson addresses the Monday luncheon. He is flanked on the right by fellow panelist Dr. Frederick Stare and John F. Krey, and on the left by John Holmes and Dr. Herbert Pollack.

Quality Lives Longer



DR. J. B. EVANS, bacteriologist of the American Meat Institute Foundation, tells how science is showing the way to quality retention in fresh and cured meat.

THE current trend in marketing methods is focusing ever-increasing attention on quality retention in meat products. Consumer preferences seem to be moving toward meat products in their most perishable form and, at the same time, these consumers are becoming more and more critical in evaluation of these products.

Today's homemakers want and are willing to pay for their meat to be cut into small portions, individually wrapped in material giving a high degree of visibility, and displayed in refrigerated self-service cases under brilliant lighting. Thus, the meat has been subjected to much additional handling and much of its surface is exposed to conditions that tend to accelerate all types of discolorations and spoilage.

In an attempt to meet these rigid requirements, many research laboratories are studying such factors as packaging materials, chemical additives, and the possible use of antibiotics and high energy radiations to give meat products a reasonably long shelf-life. They are also studying better methods of temperature and humidity control, controlled illumination, and improved methods of sanitation control. In the present discussion we shall attempt to evaluate the current status of research in some of these areas and to predict the future significance of these developments.

However, before we get into this phase of our discussion, it may be well to stop and define just what we mean by "quality" and "quality retention." Primarily, we are referring to visual appearance. The customers expect the meat to appear clean and juicy and to have the bright color that they normally associate with a fresh product. In a self-service case small differences in appearance may cause large differences in sales.

How can we assure that our product will have and retain "top quality?"

First of all, we have to start with suitable carcasses that have been handled under good sanitary conditions and good temperature and humidity control. Scientific research has made major contributions in this area—developing materials and methods for cleaning and sanitizing and equipment for recording and controlling temperature and humidity. *Refrigeration and sanitation* are the two most vital factors in maintaining quality in meat products and yet, because of their unglamorous nature, they are most frequently overlooked or neglected. Furthermore, refrigeration and sanitation are important in virtually every step from the killing floor to the dinner table.

However, to get to some of the more glamorous subjects, we will next consider the subject of packaging. Even a casual stroll through the exhibits will convince you that the study and development of new packaging materials and machines are extensive. In packaging, it seems that we are always trying to balance two opposing requirements.

First of all, we demand high visibility because of its customer appeal. This is particularly damaging to the color of cured meats which are frequently prepackaged. Secondly, we wish to retain as much moisture as possible in order to minimize product shrinkage and delay the unsightly appearance associated with drying. The retention of too much moisture may make certain products look soggy and may encourage surface sliming.

Packaging films for cured meats may be air-tight, and vacuum-packaging may increase the shelf-life of such products. On the other hand, fresh meats require some oxygen in order to retain the "bloom" that customers prefer. This color is oxymyoglobin, and if the package is too air-tight the pigment is reduced to the darker color of reduced myoglobin that we observe on a freshly cut meat surface.

If we could condition customers to accept the reduced myoglobin color as the most desirable, most of our packaging problems with fresh meat would be solved. Not only is the reduced pigment more resistant to chemical and enzymatic discolorations, but bacterial spoilage would be greatly delayed by using an oxygen-impermeable package.

The bacteria primarily responsible for producing off odors, colors, and flavors on fresh meat are pseudomonads that require oxygen in order to grow. Microorganisms that would eventually spoil vacuum-packed fresh meat grow much slower at refrigeration temperatures than do the pseudomonads. Thus, such a product would have a considerably longer shelf-life as measured bacteriologically—but it has the dark color of reduced myoglobin.

Numerous chemical additives have been tested for their ability to delay the undesirable color changes brought about by chemical or microbial action. One of the most widely used chemical additives is ascorbic acid, or sodium ascorbate. The MIB has approved its use in sausage products and other cured meats (up to $\frac{3}{4}$ oz.



OFFICIALS OF Emmart Packing Co., Louisville, Ky., at convention included H. J. Wren, William J. Manning and John C. Leist. In center photo, L. M. Kyner of Rath Packing Co., Waterloo; G. L. Haydon and R. G. Haynie, both of Wilson & Co., Chicago, and Nat Frohlich (back to camera), Frohlich & Co., New York City, pause briefly. USDA officials at right are M. A. Drisko, Foreign Agricultural Service, and D. M. Pettus, Agricultural Marketing Service, U.S. Department of Agriculture, Washington, D.C.

per 100 lbs.), and as a protective solution on the exposed surface slice of prepackaged luncheon meats. However, it has not been approved by the meat inspection authorities for use on fresh meats.

Research at the American Meat Institute Foundation, as reported this year by Dr. Wilson at the eighth American Meat Institute research conference, indicates that ascorbic acid does retard the fading of the prepackaged product if it is in good bacteriological condition, but it does not delay microbial spoilage. Considering only the preservation of color on the finished product, application of a small amount of a 5 per cent solution to the exposed slice seemed to be of more value than an equal amount incorporated in the cure. However, ascorbic acid in the cure speeds up color development in the sausage.

A variety of phosphates has been approved for use in the curing pickle for whole pieces such as hams and picnics and in canned, chopped ham. They have not been approved for use in sausage products or bacon. As also reported by Dr. Wilson, these phosphates tend to improve the texture and appearance of the sliced ham surface. However, as with ascorbic acid, there is little or no retardation of bacterial spoilage.

Antimicrobial chemicals, such as antibiotics and sorbic acid, have also been under investigation at the American Meat Institute Foundation and in numerous other laboratories. None of these has been approved for use in federally inspected plants. However, one of the antibiotics has been approved for use on fresh poultry and sorbic acid has been approved for use on some cheese products.



LIGHTS OUT in the exhibit hall was the signal for rush of packers and guests to attend the morning and afternoon sessions.

Dr. Niven reported at the eighth American Meat Institute research conference the results of some of our work on the use of antibiotics in prolonging the shelf-life of fresh meats. The broad spectrum antibiotics, particularly the tetracyclines, moderately increased the apparent shelf-life of cuts of fresh beef. However, they were not effective in meat having a high initial microbial population, such as ground beef, nor on meat held at temperatures higher than those that are employed under normal conditions.

The antibiotics would seem to hold some promise for the control of surface slime on prepackaged sausage products. However, it would be necessary also to include something such as sorbic acid to control yeast and mold growth. The antibiotics are not effective against these latter organisms.

You are undoubtedly aware that many laboratories are studying the possible use of high-energy radiations in meat preservation. A recent paper by Dr. Urbain of Swift & Company, published in THE NATIONAL PROVISIONER for July 7, 1956, very concisely presents the status of this means of preservation. He warns in particular against the use of inadequate criteria in evaluating the acceptability of irradiated foods.

Some of the American Meat Institute Foundation research results and opinions are presented in AMIF Circulars No. 15 and 20. It seems safe to conclude that only a limited number of meat products may ever be commercially sterilized by high energy radiations. However, the primary application of such irradiation will presumably be in conjunction with one or more of the other methods of preservation, such as heat, antibiotics, chemicals, and low temperature storage. For example, we have found that the use of low levels of irradiation (100,000 rep) in conjunction with one of the tetracyclines (10 ppm) markedly prolonged the apparent shelf-life of cuts of beef at low temperatures (30-35° F.).

Now, I would like to close this talk on the same unglamorous note with which we started: "Refrigeration and sanitation are the two most vital factors in maintaining quality in meat products." Furthermore, none of the new developments discussed here today promises to change this situation in the foreseeable future.

What Makes Beef Good



DR. D. M. DOTY, assistant director of research and education, American Meat Institute Foundation, describes results of a three-year study of quality of meat from graded beef carcasses.

THE AMERICAN consumer is becoming more and more "quality conscious" and every ethical producer of a consumer product is striving to furnish material of known and reproducible quality.

This is extremely difficult for the meat packer, especially for fresh meat products, because he cannot control the composition or quality of the raw material (livestock) with which he starts. Therefore, he can only classify or grade the raw meat products on some basis which he, or some other grading agency, believes is associated with quality.

For carcass beef this is especially difficult for two reasons. First, science has not been able to establish conclusively the characteristics of beef that are associated with quality, and second, selection or grading is done purely by subjective evaluation with little or no assistance from more precise, objective techniques.

Naturally, the first of these problems must be solved before any progress can be made on the second. Many investigators have contributed some information relative to this problem by determining some characteristics of beef and attempting to relate these characteristics to carcass grade and to organoleptic (eating) quality.

However, the final solution of the problem can be attained only as the result of more comprehensive and extensive studies.

We at the American Meat Institute Foundation have completed one such study made over a three-year period and involving 153 graded beef carcasses. This research was supported by contract with the Livestock Branch, Agricultural Marketing Service, USDA, and complete results will be published soon in a USDA technical bulletin. This report is essentially a summary of the more pertinent findings of the study and no attempt will be made to review the results of other investigations except as they may aid in interpreting and evaluating our results.

MATERIALS AND METHODS: The carcass groups selected for study are shown in Table I. Three carcasses from each group were selected each year for a three-year period making a total of 27 light Prime, 27 heavy Prime, 36 light Good, 36 heavy Good, and 27 Commercial cow carcasses.

Rib cuts from all carcasses and rounds from one-third of the carcasses were removed approximately 48 hours after slaughter and transported to the laboratory. The

Longissimus dorsi (ribeye muscle) of the rib and *Semitendinosus* (eye of the round) muscle of the round were sampled immediately and after two and four weeks aging of the cuts at 33-35° F.

The details of sampling and procedures used for the various determinations are described in detail in a USDA technical bulletin which is in preparation. It is sufficient

GRADE	WEIGHT	DATES SAMPLED
Prime	500	Jan., June, Aug.
Prime	800	Jan., June, Aug.
Good	400	Jan., June, Aug., Oct.
Good	650	Jan., June, Aug., Oct.
Commercial	650	Jan., Aug., Oct.

to state here that more than 40 separate chemical, physical, histological and biochemical determinations were made on most of the samples. Steaks were broiled and scored by a trained taste panel for final evaluation of the meat.

Relationships of Some Chemical, Physical and Histological Properties to Organoleptic Characteristics. Tenderness of cooked ribeye was very definitely associated with carcass fat, intramuscular fat, and marbling (Table II). Less consistent relationships were shown between tenderness and specific conductance, lean color or autolysis rating. Tenderness was not significantly correlated with the collagen content of raw or cooked meat, or with penetrometer readings.

Juiciness scores of cooked ribeyes were very signifi-

TABLE II: Linear Correlation Coefficients Between Tenderness and Other Properties of Ribeye, Second Year's Results

	0 AGING		2 WEEKS	
	No.	r	No.	r
Carcass fat	42	.559**		
Intramuscular fat	42	.598**	39	.237*
Marbling rating	42	-.562**	39	-.333*
Shear, cooked	42	-.827**	39	-.395*
Sp. cond., raw	42	-.488**	38	-.070
Autolysis rating	42	-.742**	39	.031
Lean color rating	42	-.313*	39	-.211
Collagen, raw	42	-.103	39	-.276
Collagen, cooked	42	-.239	39	-.186
Penetrometer, raw	39	-.043	38	-.019

*Significant at 5 per cent level.

**Significant at 1 per cent level.

cantly correlated with carcass fat, intramuscular fat, and marbling rating, but showed no consistent relationship to any other properties of the meat (Table III).

Lean flavor scores for cooked ribeyes were not consistently related to any of the other properties of the meat,

such as creatine and creatinine content, soluble protein, sulfur compounds capable of liberating hydrogen sulfide when heated with alkali, degree of autolysis, or the amount of intramuscular fat.

Some Chemical, Physical, Histological, and Organoleptic Properties of Beef Related to Grade and Extent of Ageing. Since tenderness, juiciness, and flavor of

TABLE III: Linear Correlation Coefficients Between Juiciness and Other Properties of Ribeye, Second Year's Results

	0 AGING		2 WEEKS	
	No.	r	No.	r
Intramuscular fat	42	.651**	39	.601**
Marbling rating	42	-.593**	39	-.820*
Carcass fat	42	.473**	39	..
Autolysis rating	42	.499**	39	.183
Lean color rating	42	.050	39	-.141

**Significant at 1 per cent level.

broiled steaks were correlated with some of the other properties of beef, the relationship of these properties to grade and extent of ageing should be of great interest.

Based on the amount of separable lean, fat, and bone in the nine to ten rib section, calculated carcass composition values (Table IV) indicate that U. S. Prime grade

TABLE IV: Carcass Composition

	Range of Different Grades and Weights		Separable Fat	Separable Bone
	Separable Lean	Pct.		
Light Prime	46-59	31-43	11-16	11-16
Heavy Prime	45-57	31-43	10-14	11-16
Light Good	54-64	21-30	13-20	11-20
Heavy Good	47-64	20-42	11-20	11-20
Commercial cow	46-58	26-44	11-18	11-18

carcasses contained more fat and less lean and bone than U. S. Good grade carcasses with the Commercial cow carcasses intermediate between the two groups of younger animals. These findings are in agreement with those of other investigators.

The panel scores for lean flavor of broiled ribeye samples ranged from 5.2 to 9.9, and those for broiled Semitendinosus ranged from 3.5 to 7.7. There were pronounced differences in lean flavor scores due to carcass grade and extent of ageing (Table V).

TABLE V: Average Lean Flavor Scores for Ribeye from Carcasses Sampled in August and January

Light Good	Comm. Cow	Heavy Good	Heavy Prime	Light Prime
6.8	6.9	7.2	7.4	7.7
0 AGING				
6.9				
2 WEEKS				
7.5				

Difference between means not bracketed together is significant.

The panel scores for tenderness of broiled ribeye ranged from 2.2 to 9.3, and those for broiled Semitendinosus ranged from 3.0 to 8.2. Tenderness of broiled ribeye was associated with carcass grade and ageing (Table VI). The ageing effect was more pronounced on Good and

TABLE VI: Average Tenderness Scores for Ribeye from Carcasses Sampled during August and January

Comm. Cow	Light Good	Heavy Good	Light Prime	Heavy Prime
5.6	5.8	6.2	7.0	7.2
0 AGING				
5.5				
2 WEEKS				
7.2				

Difference between means not bracketed together is significant.

Commercial grade carcasses than on Prime carcasses.

Juiciness scores for broiled ribeye varied from 4.3 to 9.0, and those for broiled Semitendinosus varied from

3.7 to 8.0. Ribeye from light Good grade carcasses was significantly less juicy than that from other carcass grades and weights. Semitendinosus was less juicy than ribeye. Other than these, differences in juiciness were not consistently associated with carcass grade or weight versus the extent of ageing.

Intramuscular fat in the raw ribeye varied from 1.5 to 26.4 per cent, and in raw Semitendinosus from 0.6 to 9.4 per cent. There were distinct differences in intramuscular fat in connection with carcass grades and weight (Table VII).

Subjective marbling ratings on raw ribeye indicated that Prime grade ribeye was significantly better marbled than Good grade ribeye with Commercial cow ribeye intermediate (Table VIII). Heavy carcasses in each grade exhibited somewhat better ribeye marbling than light carcasses.

Lean color of raw ribeye as determined by comparison with Munsell color plates, was very significantly related to carcass grade and extent of ageing. The color of Prime

TABLE VII: Average Intramuscular Fat (Per Cent) in Raw Ribeye of Carcasses Sampled in August and January

Light Good	Heavy Good	Comm. Cow	Light Prime	Heavy Prime
3.1	4.6	6.3	8.1	8.7

Difference between means not bracketed together is significant.

grade ribeye was lighter than Good grade ribeye, and aged ribeye was lighter in color than unaged ribeye.

Other physical characteristics of the meat, such as electrical conductance, penetrometer readings, and firmness (determined objectively), were not related to carcass grade or weight. This was also true for the content of chemical components such as amino nitrogen, soluble protein nitrogen, creatinine and creatine and collagen, although the amount of these components was changed by ageing and/or cooking.

Furthermore, certain histological characteristics, such as muscle fiber diameter, muscle bundle size and auto-

TABLE VIII: Mean Marbling Ratings for Ribeye from August and January Samples for Two Years

Heavy Prime	Light Prime	Comm. Cow	Heavy Good	Light Good
1.94	2.00	2.31	2.75	3.69

Difference between means not bracketed together is significant.

lysis rating, were not consistently related to carcass grade.

These results, and those obtained by other investigators in similar studies, have contributed greatly to our knowledge of composition and properties of beef. Such information must be obtained before our systems for carcass selection on the basis of quality can be improved. The data obtained to date indicate that it is unlikely that any single, rapid, objective method for carcass grading can be devised.

The quality of the meat is dependent on too many factors to be closely correlated with any one single objective measurement. However, it is believed that good basic information on the composition and properties of beef can be used to improve subjective methods of selection and furnish the foundation for the development of a number of objective measurements that will be of assistance in making beef carcass grading a more precise and reproducible procedure.

Keeping Packagers Working



WILLIAM R. ROSE, vice president of Rose Packing Co., tells how his firm gets maximum production from its slicing, packaging and other modern machinery.

TO OBTAIN anywhere near maximum production from automatic machinery necessitates an adequate preventative maintenance program. Certain philosophical conclusions must be agreed upon by the people directly and indirectly responsible for the operating and maintaining of these automatic machines. I cannot give you a wheelbarrow full of answers to problems that may be unique in your operation, but merely will try to fortify and embellish upon some ideas pertinent to the operation of automatic machinery.

Allow me to establish a few definitions that I use in my thinking on the subject. Primarily, preventative maintenance is the performance of machine maintenance on a scheduled basis in order to save money usually spent on repetitive repair and loss of production. It is also scheduled inspection, to ascertain the remaining life span of the machine before the next minor or major overhaul, in order to plan future production.

The difficulty we have all had with implementing a proper maintenance program has not been the type or degree of paper work, but selling management itself on such a program. I cannot suggest to you the degree of formalization with records and other paper aids required. Only you fully understand your problems and the relative importance of each machine in your plant. The answer to this problem can be arrived at only with your innate knowledge and inventive skill.

Today we buy a \$15,000 automatic machine which can replace possibly five people, but at times it seems impossible for management to understand that one-half a maintenance man is now required for the servicing and maintenance of this machine. Adding maintenance men to the payroll is a difficult thing for top management to rationalize. These people are unaware that in many industries the number of nonproductive people already outnumbers the production workers. Westinghouse now employs over 55 per cent nonproductive personnel. We must all admit that the meat industry in the last five years has embarked upon, if not a machine revolution, at least a good evolution. The number of maintenance men currently added should be a reflection, or a speedometer, indicating your rate of mechanization.

As we replace these groups of three, four and five production workers with automatic machinery, the need for one-half maintenance man here and one-quarter man over there will build. If we broaden the definition of an operating engineer or maintenance man, is it not possible to envision some time at some place the number of maintenance personnel exceeding the number of production workers?

BREAKDOWN HITS EVERYONE: The importance of this type of maintenance becomes magnified due to the trend away from the batch systems that automatic machinery usually necessitates. The time cycle of a batch system may be from 10 to 45 min.; with automatic machinery there is usually one second between one 6-oz. package and the next. A breakdown of an automatic operation is felt immediately on the entire line. As we bring our percentage of production efficiency within a department up close to the mode, we find that the workers' general attitude plays a significant part in obtaining that last 10 per cent.

There is nothing more discouraging to the workers on the line, after having run the majority of the day in almost perfect unison with their fellow workers, with the possibility of breaking a production record being imminent, than to have a breakdown anywhere on the line. These breakdowns cause a psychological slump in production which is felt for a far longer period than the length of the breakdown itself. I feel it is better to have an operation running at 95 per cent efficiency, turning out 125 pieces per minute, than one turning out the same number of pieces per minute and running at 60 per cent efficiency. Your entire production efficiency system becomes meaningless under such conditions.

The complexity of the machines of the future necessitates the implementation of an adequate maintenance program today, not when these complex machines are delivered to the front dock. The machines of tomorrow will encompass a far larger series of operations and our dependence upon their continuing their daily productivity will be tenfold.

The degree of formalization of the maintenance program is directly proportionate to the degree of mechanization within a company or a department of the company. The larger the company and the degree of mechanization, the more necessary are rules of

generalization. These rules of generalization are the rules that we, from time to time, are forced to institute to combat repetitive, intangible tribulations. Many of these rules are apropos only in 80 per cent of the problems they are directed toward. An example of such a generalized rule that covers the preponderance and not the entirety is the red light that we wait for on a deserted highway at 3 o'clock in the morning. Nobody can argue the necessity of this light, but to say the least it is frustrating. We are all familiar with this type of necessary red tape.

KEEP GOAL IN MIND: Preventative maintenance, like cost accounting or any other specialized endeavor, can be expanded in a clerical manner to such a degree that the main goal is muddled, if not lost, in a "snowstorm" of paper work, trying to pin down the never-ending, always elusive intangibles. Many a member of management has speculated on the cost involved in a complete cost accounting system. Here we have cost accounting of the cost accounting department and this line of thinking can be carried on and on. This is the case in preventative maintenance.

The goal and, therefore, the definition of preventative maintenance must be kept always in the foreground and not "snowed under" with a storm of paper work. Granted, the larger the company the greater the necessity for more and more generalized rules to fit the majority of cases. But the rules of yesterday should be re-evaluated at various intervals in the light of today's thinking. I believe the main endeavor is to cultivate a sense of propriety in both the maintenance man and the operator. "So it's not working right; that's not my responsibility"—this is one of the most costly attitudes in which you can allow your workers to indulge. The less the sense of propriety in the workers, the greater the degree of formalization and the more need for paper work.

The use of zones, or assigning a maintenance man whenever possible to a complete system, is one way of arousing his "sense of propriety." If he can be responsible for the machinery involved in carrying a product from the unfinished to the finished stages, you will be tickling his desire for recognition, for satisfaction in a job well done, and be returning to a degree to the era of "master craftsmen." This man, through the eventual complete familiarization with his series of machines, will develop that master mechanic's intuition for spotting the trouble without taking things apart to a thousand pieces. However, he should be moved from zone to zone a few times a year to prevent the boredom and the indifference that monotony precipitates.

Will you allow me also to broaden the definition of a maintenance man? Many managerial people look upon maintenance men as escapees from the current "do it yourself" craze, jacks of all trades and masters of none. A great many of these top management people consider maintenance men as a semi-necessary expenditure, such as a janitor. This definition, I am sure, does not coincide with yours or mine. Could not the machine monitor, who does his own set-up work, change-overs, etc., be included in the definition of operating engineer or maintenance man? This is an extremely broader and far more encompassing defi-

nition than we usually associate with maintenance personnel.

MORE MEN MAY BE NEEDED: If we are going to include part of the machine operator's or monitor's duties as being associated with the maintenance program, then I would like to say a few words about the qualifications of the machine operator. Many production people realize or are beginning to realize that in some cases we have gone overboard in the utilization of women as machine monitors. Not many years ago, the hourly scale differential was large enough to justify the use of many women. This differential has been whittled at in the past few years to such a degree that the justification of this thinking should be re-evaluated. The machinery has become more complex, more difficult to maintain and more difficult to change over. The more automatic a machine becomes, the less human dexterity is required and this was woman's biggest advantage.

Man's turnover rate is a great deal lower; his



CHAIRMAN D. L. SAYLOR II of Luer Bros. Packing Co. (left) checks his lineup of speakers for the engineering and construction session: W. R. Rose of Rose Packing Co., Lt. Col. Belmont S. Evans, Jr., U. S. Atomic Commission, and Daniel D. Wile, Refrigeration Engineering, Inc.

absenteeism is strikingly less. The number of restrictions, length of hours, regularity and flexibility to change from job to job provide some of man's obvious advantages. Further, there is one intangible, and that is man's love of a well-running machine. This sense of intimate propriety, present both in the operator and the maintenance personnel, is the most important intangible in the entire preventative maintenance program. This sense of propriety can be called upon for a shot of oil or reporting a strange noise from the interior of the machine.

I would also like to discuss what a machine is and is not. A machine is originated from a series of hand aids—aids that have broadened man's use of his hands like a saw or a chisel, even a skill saw—a series of these aids, mixed, if you will, into one personification and automatically timed in their series of operation. A machine is not, in my way of thinking, a series of mechanized, independent hand operations. Many hand overwrap systems that are used today consist of very elaborate and well thought-out series of tables, hand aids and possibly a conveyor or two.

This, I feel, by definition might resemble a machine but is certainly not one. I believe there is a definite place for this type of operation, to answer limited production assemblies problems. I am also quite sure that many top management people have turned down their engineering department's request for some type

of automatic machine operation to replace the former system. Management's reasoning in doing so, is the fear of having costly, if not catastrophic, production stops with these complicated "gimmicks." In other words, they are afraid that preventative maintenance could not keep automatic equipment operating in a satisfactory productive and quality manner.

TREAT LINE AS ONE UNIT: Now that I have given to a certain extent a definition of a machine, I would like to broaden it immensely. Many times when we have shopped to replace a worn out or antiquated machine we find that there have been technological advances during the life of that machine which would enable us to replace it with one that will not only perform original functions but also do one or two pre-operative and one or two post-operative steps. There is no doubt in our mind when we install such an apparatus that it is a single machine, even if it has to have one or more human monitors. Now if we, through our own intra-plant technological advances, are to couple the flow of one or more machines together in a manner that they perform a series of events, is not this unit of machines one machine? A system, if you will!

My point is this: the maintenance of a single machine or unit does not satisfy the preventative maintenance program. All the machines on an operating line, such as in a sliced bacon operation, should be maintained as one unit. From the slicer to the conveyor to the case sealing machine, all parts should be thought of as a single machine. Procuring the proper machine does fall under the preventative maintenance program; the utilization of a machine which does not conform to your specific requirements will result in the need for a more extensive maintenance program. The deficiencies in design and operation are felt for the entire life of that machine.

Many machines obtain the same result and yet use an entirely different engineering principle to accomplish it. Usually the more direct the engineering principle involved, the less intricate the machine. Some machines have been designed for a specific product and later, with the thought of increasing the sales potential of that machine, they have been adapted to products totally dissimilar to the designer's original intent. In some cases this works out very well. In most, I believe, the designer's engineering principle becomes muddled, the machine more complicated and its operation more critical. All of these thoughts should be borne in mind when shopping for a new machine.

Our responsibility as the machine buyer or advisor to the buyer is to inform the machine supplier of our needs so he can ascertain the sales potential of a needed machine or the improvement of an old one. There is one particular slicer on the market that does an excellent job on ham and other similar products. The initial cost of this machine is relatively very low. However, its upkeep, both in parts and lost time is almost prohibitive. The price gap between this low priced machine and the next higher is very wide. The need for an intermediate machine, pricewise, is acute. It is our responsibility as potential buyers to make our feeling known on this and similar circumstances.

CLEARINGHOUSE SUGGESTED: How else can the machine supplier justify the expenditure for design and

manufacture of a new machine if we do not cumulatively voice our needs? To voice our needs in such a manner calls for a medium with which to do so. I would like to suggest at this time that we request the American Meat Institute to act as a clearinghouse to collect requests for the design of unique machinery and the improvement of existing machinery. If we, as the potential buyers, were to pass on to the American Meat Institute requests of this nature, the Institute could combine these into groups of a similar nature and send such information to the appropriate suppliers. The very numerical weight of such requests should indicate the sales potential and provide the motivation for the manufacture of machinery to fit the meat industry. There is no one to blame but ourselves for lack of available machines specifically designed for the meat packer.

The immense backlog of machines available to the dairy industry or the canning industry puts our degree of industrialization or mechanization to shame. Certainly our suppliers are not entirely to blame for this void of equipment. We have all been very reluctant to try new ideas and machinery. During the last few years, however, the slow acceleration in the other direction has begun to tell. The impetus lies in our hands, not with the suppliers.

Because very few of us find ourselves in the position of being over-capitalized, very often we resort to the purchase of second-hand equipment. The sale of second-hand machinery to the meat packer is apparently quite lucrative. I am sure many in this room are considered by these suppliers as good customers. I know for a fact that my name is well known in the second-hand circles. However, we must not hide, nor indeed bring in through the back door, this machinery of an unknown history.

OVERHAUL USED EQUIPMENT: There are a few rules about such machinery that should be adhered to at all times. Second-hand equipment should be overhauled in your own shop before being placed on the line regardless of what warranty is in effect. Most second-hand equipment, even though bought from the manufacturer, has only had cursory inspection and a quick paint job. Not too long ago, we picked up a large centrifugal pump and motor from a very reputable dealer. This pump had one year's warranty on it. But in tearing it down in our shop, we found a large inhabited mice nest, complete with babies. Aside from the mice, though, it did have a beautiful paint job.

There is another extremely important reason for overhauling this equipment. In many cases technical literature is not available, and if during an overhaul you gain nothing but familiarization with the workings of the machine, you will have justified the cost. Factory service on second-hand equipment is often hard to obtain and familiarization with a machine while on the production line can be costly indeed.

During an overhaul, whether of a new machine or a second-hand one, the idea should be not to rebuild it as good as the day it left the factory but with corrective maintenance in mind. The designer of the machine could not possibly envision all of the uses his machine would be called upon to perform. Only you are familiar with its use in your particular operation. If a shaft has given trouble previously, possible a

harder steel or a larger shaft should be used for replacement. If the motor or electrical circuits are continually wet, due to your specific use, they should be moved to a different location on the machine or water-proofed in an adequate manner.

As an example, many adjustments that the designer anticipated bi-annually are done daily in your particular plant; these adjustments probably consist of loosening a number of nuts and hammering a slide in one direction or another. This type of adjustment should be augmented with a screw and crank and a wing nut for locking. Thus, the replacement parts that the manufacturer recommends are not necessarily the answer to your specific problems.

DESIGNING YOUR OWN: Building your own equipment should not be overlooked as a possibility, regardless of how small an engineering department you have. If your facilities are so small that they preclude the possibility of original engineering and machinery construction, you will find that there are many small machine shops only too delighted to oblige. The only problem with such a project is the communication of ideas and the heartfelt philosophy that "You will make it work." Many times designing your own machine is the only answer to mechanizing a unique problem. Because you are not in the machinery business, the sales potential of this unique machine need make no difference if the cost can be justified by the savings incurred in your plant. The design and building of original equipment is a field in which I am extremely interested and somewhat familiar.

The psychological advantages to be derived from your own maintenance department will be extremely gratifying. The most logical way to approach the design of original equipment is to sit down with the maintenance men and foremen involved and get as many ideas as possible. Of course, you will have thought out as much of the problem beforehand as possible and have arrived at some semi-fluid answer. However, including the people involved in the operation and maintenance of this machine in its original

design can instill a sense of propriety in the finished product. Their attitude toward the newly designed machine is, "It will work," not "I knew it wouldn't work." After all, were not these people parents of the original idea? Their progeny is as important to them as it is to you.

Many times I have been with our maintenance men when we attempted to adjust or repair a part on one of our original machines. Somebody will say, "What fool designed this thing? You can't get at the parts to adjust them," but it is said in a sense of jest for the very man who said it most probably placed that part in the awkward position he finds it. This is an entirely different attitude than the griping one finds during the overhaul or repair of an alien machine. Another advantage lies in the fact that the men who are to maintain this machine were the builders or had a great deal to do with the design and hence are completely familiar with its component parts and their duties. Still another advantage is the standardization of certain parts, for instance, settling on two or three basic bearing sizes and models for all machines.

Because you are not building this machine to sell for a profit, you will tend to use better materials than a machinery manufacturer. More stainless steel nuts, bolts, lockwashers, shafts, even the chassis, will be of more durable quality. The design of machines can be greatly simplified and their ruggedness and dependability greatly enhanced with the use of a good quality air cylinders and stainless steel shafts. The ease of interchangeability of air cylinders is but one inherent advantage.

OTHER ADVANTAGES: Automatic oiling delivered to the air cylinders through the air supply tubes is another advantage that greatly simplifies the maintenance of such a machine. The number of machine parts actuated by pneumatics or hydraulics has grown in the last 15 years at an astounding rate. Designing equipment to be actuated by air cylinders is simplified because each moving part is designed, built and perfected separately with stainless steel parts that usually



ACCOUNTING COMMITTEE of the AML and advisory committee on federal reports hold a joint luncheon during the convention.



do not require grease or surface oil as do gears and chains. This breaks the designing down to individual components digestible to even a non-technical mind.

When all components of the machine have been built in a water-proof, sanitary manner and can be operated separately to your complete satisfaction, then each air cylinder is coupled to an electrically-timed series of solenoid valves in a completely water-proof stainless steel cabinet. Now you have your series of hand aids, built in a durable, water-proof, sanitary manner, coupled to an automatic cycling device and, hence, you have given birth to a machine especially designed for the meat industry and specifically to answer your production problems. Of course, this is only one approach to the designing of machinery. I cannot, however, recommend too highly pneumatics for the building of unique machinery.

As I have indicated, there are many types of records and paper work. A simplified form, and one that should be included in the most complex of systems, is a log book for every major machine. This log book should have sheets large enough to record each breakdown that occurs and its remedy. The book should be thick enough to allocate one sheet per week for five years. By keeping this type of log, the frequency of specific repairs can be found and preventative measures can be taken prior to the anticipated breakdown. If a bearing seems to be giving trouble every eight months, then by turning ahead six months of the dated pages and making appropriate notation for replacement of this bearing, you will have one of the most simplified of preventative maintenance systems.

When a remedy has been found for a particular problem after many trials and errors, it should be noted in this log for the aid of others. Right now in your plant there is another aid available for our program: you must all have some type of formal or informal work order or requisition. The foremen usually use these to request repair of something already broken or out of adjustment. If we can expand the use of this work order in such a manner that the foremen and the machine operator, through his foreman,

can report minor malfunctions such as a strange noise and other things suggestive of a breakdown, then we will have taken another major step in our program. This type of report is usually the only recorded communication between production and engineering and its use should not be limited.

SETTING UP PROGRAM: If your company has no formalized maintenance program for automatic machinery, I would like to recommend four simplified steps to be taken to implement such a program:

1. Accumulate complete equipment data from all your motors, machines and their component parts and compile a record system.

2. Determine from previous experience and discussion with personnel involved the amount of maintenance needed for each machine.

3. Through the use of your records, set up regular inspection cycles, work orders and spare part stocks. If the machine is essential to production, these spare parts should include basic components such as gear boxes, motors, etc.

4. Through the use of your log book, schedule overhauls frequently enough to prevent major breakdowns.

This morning we have broadened some basic definitions and discussed the importance of preventative maintenance today and in the future. We have touched briefly on the psychological slump in the production worker caused by ill-timed production interruptions. I have deliberately stayed away from recommending or, indeed, implying that I know the type or degree of formalized program needed in your particular operation. I have, on the other hand, elaborated briefly on the use of the log book for each machine and have recommended expanding the use of the foreman's work requisition. But all the necessary paper work and formalized programs are not nearly as important as instilling a sense of propriety in both the machine operator and the maintenance man involved. Separate, adequate storage facilities for replacement parts of each individual machine must not be overlooked.

I have talked at some length about the procurement of the proper machine to answer your specialized production problem. Whether you buy new, second-hand or build your own, the inherent maintenance headaches will be with you for the life of that machine. The availability of more and better machines and the improvement of existing ones is our responsibility more than that of our suppliers. We must let our needs be known to these people.

LAWRENCE KEIL and H. E. Brooks of Armour and Company, Chicago, get chance to swap shop talk during convention. Trio (center) visiting during exhibit hours includes Jack Sabean of John E. Smith's Sons Co., Buffalo; H. W. Keefer (with pipe) of Swift & Company, Chicago, and W. H. Norris, Wilson & Co., Cedar Rapids, Ia. At right, John J. Sparkman, U. S. Senator, and William Kling of Valley Pride Packing Co., Inc., Huntsville, Ala., seem optimistic about future of the livestock and meat industry in the Southeast.



Irradiation and Steam



DUAL PURPOSE NUCLEAR reactors are possible but many technical difficulties must be overcome before packer can protect his meat and obtain steam from same setup, says Lt. Col. Belmont S. Evans, U. S. Atomic Commission.

THE AMERICAN packer's philosophy of utilizing every part of the pig except the squeal is in accordance with the development of dual-purpose reactors, in which both power and radiation can be utilized to the maximum degree.

In this presentation I intend to mention briefly several possible concepts for dual-purpose reactors, and to go into more detail on a type similar to that proposed for the world's first reactor, designed primarily as a gamma radiation source. I intend, also, to outline some of the problems of reactor safety.

First, I wish to clarify the term used to describe the kinetics size of any reactor. The power rating is usually expressed in megawatts of thermal energy produced by the fission process. About 300 lbs. per hour, or about $3\frac{1}{2}$ tons per day of a good grade of bituminous coal would be consumed to produce a megawatt of heat. This corresponds to the consumption of only one gram of fissionable material.

Assuming that about 40 lbs. of coal are required to process one hog carcass, for a medium-size plant handling 5,000 hogs per day a 30-megawatt reactor should be able to produce all the low order steam and hot water required in the plant's operation. This is about the size of the American Testing Reactor (MTR).

The commonest method of extracting gamma radiation from a power or any other type of reactor today is to utilize the energy of the fission products present in fuel elements which have been "burned" in reactors. At the time that these elements are removed from a reactor they are extremely radioactive as well as thermally hot.

They must be stored under water for as long as several months before they are "cool" enough to be shipped to a chemical processing plant for the recovery of unspent fissionable material and selected isotopes. Only 5 to 20 per cent of the fissionable material placed in a reactor core can be used in a single loading.

Provided the spent fuel elements can be used in the immediate vicinity of the reactor they can be employed economically, but any handling of the elements is expensive due to the necessity of protecting personnel and dissipating the heat produced mostly by the beta-emitting fission products. The gross fission products themselves — the waste of the chemical processing plant — also form a possible source of radiation.

OBJECTIONS: There are two principal objections to these types of sources. First there is a continual decrease in activity caused by the exponential decay of the radioisotopes present. Such a condition causes a continual change in the production rate of any facility. Second, under present techniques large sources of very high intensity cannot be formed, thus necessitating construction of large irradiation chambers because of the long holdup times required.

While there is a great amount of activity in these "ashes" from atomic furnaces inssofar as hazard to human life is concerned, the radiation dose levels which are of interest in food preservation vary from 200 to as much as 5,000 times what is considered a lethal dose for a man. The shipment of large radiation sources requires the use of a heavy shielding container weighing upwards to ten tons.

For example, a 25,000-lb. shield is used by Argonne National Laboratory to ship four MTR elements which have been out of the pile for 40 days. A similar container at Dugway Proving Grounds in Utah handles eight spent elements at a time, but these elements must be at least 70 days old. In addition to the weight and mass problem, there is also a need to allow for heat dissipation if any shipment has a large concentration of radioactivity.

As a dual-purpose facility the homogeneous reactor is a type which appears to offer many advantages over other reactors. Theoretically this is the simplest form of reactor, and its strongest proponents have described it as "a pot, a pipe, and a pump."

At the other extreme it has been termed a plumber's nightmare. In this type of reactor the fissionable material is present as a soluble salt or slurry, whose anion is relatively resistant to changes caused by radiation. The "pot" is the core of the reactor, where a sufficient amount of the fissionable material can be concentrated to form a critical mass.

The solution is circulated continually through a heat exchanger to permit the extraction of thermal energy. A small amount of the fluid is bled off continually through a loop where chemical extraction of solid fission products takes place. A radiation facility could be activated by gaseous fission products from the reactor core by pumping them rapidly into pipes or slabs in an irradiation chamber.

The transfer of these gases would have to be accom-

plished most expeditiously, since many of the useful radioactive gases have half lives of between seven and 17 seconds. A preliminary study made by Briggs and Kolb of Oak Ridge National Laboratory indicates that a 15 megawatt homogeneous reactor capable of producing sufficient radiation to sterilize 3,000 lbs. of meat per hour could be built for \$5,500,000.

To a reactor operator the most appealing features of a homogeneous reactor are: the elimination of the expensive fabrication of fuel elements, the elimination of inventory costs for fissionable material tied up in spent fuel elements, and the elimination of the need for shipping the elements eventually to a chemical processing plant.

Under normal conditions the radioactive gases are merely waste products, and any utilization of them is "money in the bank." In the system there need be no changes made which would affect the reactor core or the physics of the reactor. However, associated with such a facility there will be problems which may prove to be rather troublesome.

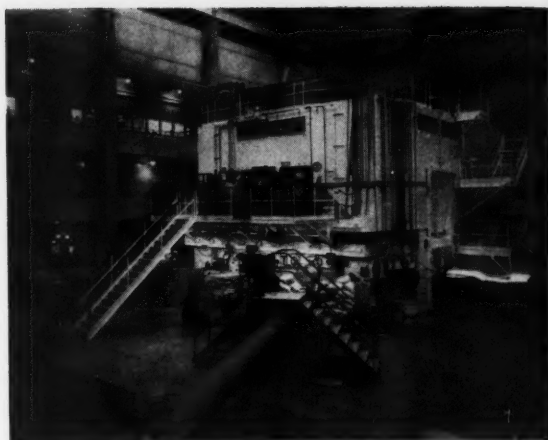
DIFFICULTIES: In addition to the rapid removal of gases from the reactor core, one will have to allow for drying the gases, causing them to flow in a manner which will produce a uniform radiation flux, and controlling temperature. The piping of heat-producing, corrosive gases will be no simple matter. The primary drawback of the reactor itself is the problem of corrosion and chemical stability of the liquid in the reactor.

From a safety standpoint there is also the problem of being able to pump safely a radioactive solution under pressures as high as 2000 psi. The reactor must operate at high temperatures to maintain good solubility of the uranium salt. However, provided the chemical and engineering problems can be solved satisfactorily, this type of reactor shows great promise in providing power and radiation economically when it is possible to build reactors rated at several hundred megawatts.

A type similar to the homogeneous reactor is the liquid-metal-fueled-reactor (LMFR), in which the fissionable material is dissolved in a liquid metal such as molten bismuth. In such a reactor one is faced with the difficulty of maintaining the metal solvent in a liquid form, as well as the possibility of chemical interaction between the solvent and the fission products or the fissionable material itself. The high boiling point of the selected solvent eliminates the need for high pressure systems at the high temperatures developed in the reactor.

One must insure, however, that there are no cold spots in the liquid fuel system where there might be precipitation and concentration of fissionable material or where the solidifying solution might clog the pipelines of a primary heat exchanger system. The extraction of gaseous fission products is simplified in this case by the elimination of the need for drying the gases and the need to allow for the recombination of hydrogen and oxygen liberated in any water system by the radiolysis of water. Brookhaven National Laboratory has an active research and development program on this type of reactor.

In reactors where liquid sodium is used as a coolant, another dual purpose possibility is offered. The sodium which is circulated through the core becomes radioactive, and a secondary sodium system must be used to transfer the reactor heat to a water-steam system.



MATERIALS TESTING REACTOR from the southeast corner of the building. The long tube under the bridge is evacuated to permit bursts of neutrons from the "chopper" close to the reactor to pass to the recording instruments in left foreground. Grappling tools used for changing fuel elements and other parts deep under water inside the reactor tank, hang against the southeast corner. Experiment-control apparatus is seen on the reactor balcony. Back of the long ladder is the shielding around the crystal spectrometer.

The volume of the primary sodium loop could be enlarged from that required for a power reactor to a size which would permit the flow of the radioactive molten sodium through an irradiation facility. The chief advantage of this reactor concept is the low vapor pressure of sodium at elevated temperatures, thus again eliminating the need for a high pressure system in the primary loop.

Sodium's low specific heat and its chemical activity when exposed to water or air are the primary disadvantages. Whether or not the specific radioactivity of sodium, could reach a value which would allow for short holdup periods for items being processed has been questioned. Further, in order to have the radiation flux reach an equilibrium in the irradiation chambers it would be necessary for the reactor to operate for as long as two days before using the chambers. A reactor of this type, the SGR, is to be built near Lincoln, Nebr., by North American Aviation for the Consumers Public Power District, and it is possible that an irradiation facility may be included in the final design.

RADIATION SOURCE: Under the Army's program to investigate the use of radiation to preserve foods some consideration was given two years ago to the development of a reactor designed as a radiation source.

At the Oak Ridge School of Reactor Technology a group of graduates, headed by Edwin L. Guernsey, completed a study of the design of a gamma radiation reactor. This original study of the gamma reactor concept, which was completed in August of 1955, indicated that, based on present reactor technology, the most feasible and economical design for a reactor to produce sufficient radiant energy to sterilize 1,000 tons of meat per month was a water-cooled and water-moderated heterogeneous reactor with a "blanket," or annular ring, containing an aqueous solution of a soluble salt or indium or manganese.

The indium or manganese, having relatively good capture cross-sections for neutron capture, would become radioactive, and could be circulated through pipes,

drums, or slabs in an irradiation chamber. Indium was preferred to manganese for a number of reasons, one being the half life of about 54 minutes, which permitted the radiation level to reach equilibrium in a few hours in the proposed facility and, after reactor shutdown, would decay within a day to a level which might permit maintenance to be performed without resorting to much complex and expensive remote handling equipment.

A later study by E. O. Arnold and A. I. Gresky of Oak Ridge confirmed the findings of the original study that this concept was the most feasible for the Army's purposes. The cost of such a facility was indicated to be slightly over \$3,000,000. Modifying the reactor design to permit the production of electrical power was shown to be economically undesirable, due to the great increase in the cost of construction.

The latter study indicates that dual purpose homogeneous reactors rated at several hundred megawatts are economically attractive. Since the largest homogeneous reactor being developed at present will be rated at ten megawatts, this form of dual-purpose facility cannot be expected for many years.

In November of 1955 the Department of Defense requested the Atomic Energy Commission to design and construct a food irradiation reactor (FIR) which would be capable of producing enough radiation to permit the processing of 1,000 tons per month.

The reactor will become part of the Army Ionizing Radiation Center, which will investigate the utilization of radiation in all processes that may be of interest to the armed forces.

FOOD USE: Initial emphasis of the center's activities will be to serve the requirements of the food preservation program which is being directed by the Quartermaster Food and Container Institute for the Armed Forces.

The requested date for the initial operation of the reactor, which is fiscal 1959, made it necessary to choose a reactor concept with a technology fairly well developed. Several studies, including one by the Internuclear Company of St. Louis, were initiated and the concept as developed by the original ORSORT study was agreed upon as the most acceptable at this time.

In order to simplify the problems of design and construction, it was decided in this case to design the reactor solely as a gamma radiation source and to dissipate the heat, as is done in the production reactors at Hanford and Savannah River.

Since the FIR is to be a demonstration reactor to

prove or to disprove to industry's satisfaction the practicability of applying radiation to commercial processes on a pilot plant or larger scale, it was felt desirable to have the radiation center located near main lines of commercial transportation.

Because the first item to be investigated was food processing, it was considered necessary to have a location near a major food producing area. These criteria for site selection increased the stringency of certain safety requirements that must be considered in the final design of the reactor.

It might be well at this point to list some of the factors that should be taken into consideration in locating a site for a reactor. In general, the factors are similar to those used in locating a large chemical plant. These include such items as acreage available, power supply, water supply, waste disposal, plant security, and transportation.

The possibility of a serious accident dictates that the location be isolated insofar as main utility lines, railroads, other essential activities, and centers of population are concerned. If one does build a plant near other activities, additional safety measures such as heavy walls, embankments, and fire control systems are required.

If only because of good public relations, one would think twice before locating upwind from centers of population a plant which might produce noxious or undesirable odors; and the likelihood of frequent or prolonged temperature inversions — conditions which might permit the buildup of concentrations of these gases — would make a location undesirable.

SAFETY: The above factors, plus others, govern the selection of a reactor site and design also, particularly insofar as safety is concerned. Meteorology, hydrology, geology, and seismology of the area are studied. The proximity of centers of population dictates possible containment of the reactor to varying degrees. By containment we mean enclosure of the reactor and designated parts of the reactor system within an airtight structure capable of withstanding any changes in conditions caused by a "maximum probable accident" involving the reactor.

In short, the container is a concrete and steel capsule which can remain intact in the event of a serious accident in spite of sudden increases in internal pressure and in spite of being bombarded from within by portions of the reactor acting as missiles.

Depending upon the degree of containment demanded, this structure will add 15 to 35 per cent to the cost of the reactor. Even with containment, reactors will be banned in many locations, depending upon the type and power rating of the reactor to be built.

The preliminary design for the FIR, as developed by the Internuclear Company, indicates that a light water-cooled and moderated reactor developing 15 megawatts of heat will be required. The reactor core will be surrounded by an aqueous solution of an indium salt, probably the sulfate, which will be pumped through irradiation chambers where dose rates as high as 5,000,000 rep per hour may be obtained.

The reactor itself will be housed in a container, as will the primary heat exchanger, a cleanup system for the primary cooling water, a storage tank for spent fuel elements, pumps, and control mechanisms. During operation of the reactor the container will be sealed com-



25,000-POUND container used to transport MTR spent fuel elements after waiting period of 40 days.

pletely, and the reactor will be operated from a console housed in an adjoining building.

The primary cooling system will be under a low pressure to reduce the possibility of gas voids forming in the system. The exit temperature of the primary cooling water will be about 200°F to minimize the possibility of flashing in the event that there is a sudden loss of pressure in the system. The secondary cooling system will leave the heat exchanger at about 140°F at about 2,000 gpm.

The above temperatures could be raised and the reactor used to produce hot water and low pressure steam for a small packing plant, but such a modification would result in increased construction costs well beyond what is considered reasonable at this time. Further, since this is the first reactor that has been built with a blanket purposely designed to absorb neutrons, the operating temperatures should be kept low.

If the reactor were operating at a high power level, it is remotely possible that the sudden removal of the indium solution and its replacement by water might cause sufficient excess reactivity to produce an "incident." With the many safety controls that are built into reactors the possibility of such an accident, even in the event of an instantaneous change in the composition of the blanket, is very remote, but it must be given consideration.

Also, since it is felt that there will be periods when the reactor is shut down and hot water and steam will be needed in the plant, a conventional heating system will have to be included in the design of the center. It is felt that the savings in fuel for the conventional plant would be a fraction of the additional expenses incurred in designing the reactor to fill a dual role.

The only truly novel feature of the FIR will be the indium sulfate system. The reactor core will be designed to permit good leakage of neutrons into the blanket, where most of them will be absorbed by indium atoms. The radioisotope of indium so formed decays eventually into a stable isotope of tin. Problems here include the design of a cleanup system for the solution, determination of the most desirable pH and concentration of the solution and methods for regulating these conditions, and the ever-present problem of corrosion. Present indications are that the use of an all-stainless steel piping system will minimize this last headache, but other alloys and metals will be investigated.

As in all water-cooled reactors, the FIR will present the problem of recombining the oxygen and hydrogen produced by the radiolysis of water in the cooling sys-

tem, as well as in the system involving indium sulfate.

THERMAL SOURCE: When one operates a reactor at a level sufficient to produce useable thermal energy, complexities increase exponentially with the increase in operating temperature. Shielding must be heavier, tolerances on instrumentation and controls are reduced, and the pressures in the primary cooling system rise.

Higher reactor power ratings mean greater energy density throughout the reactor core. Unlike standard heating plants it is necessary to seal the primary cooling system and to eliminate the safety valve for all practical purposes.

The possible results of this step are vividly imprinted on the minds of thousands of chemistry students who, at one time or another, have corked the opened end of a reflux condenser.

At elevated temperatures not only is there an increase in the amount of potential energy available for

FOYER SETTEE provides comfortable resting place for W. M. Yeager of Lebo Press Co., Pittsburgh, and Ted Morlang, Henry Morlang Inc., of Parkersburg, West Virginia.



release, but also the problems of chemical changes are intensified. For example, consider the case of cladding material used in heterogeneous reactors. A typical fuel element may consist of a number of plates of a uranium alloy 24 x 3 in. and 30 mils thick, then encased, or clad, in 15 mils of a pure grade of aluminum.

About 18 of these plates are arranged parallel to one another and separated by about 100 mils to permit the passage of cooling water. Such an element has proven to be satisfactory where the energy density and the operating temperatures have not been excessive. The need for encapsulating the fuel elements is dictated by the desire of the reactor designer and the operators to keep the primary cooling system as "clean" as possible.

If one is able to contain all fission products in what are in effect removable containers, the entire problem of maintenance and personnel safety is simplified. Not only is the cooling solution made less corrosive, but radioactive material is not distributed throughout the system. When it is desired to operate at higher temperatures and corrosion of the aluminum cladding becomes serious, other cladding materials, such as stainless steel or zirconium, must be utilized.

These materials are more difficult to work with in fabricating the elements, and their greater cross sections to neutrons (their ability to absorb neutrons, thus reducing the number available to maintain the fission chain reaction) make them undesirable to have in the reactor core.

They, are, in effect, reactor poisons and necessitate using more fissionable material in the core than is required when one uses aluminum cladding. The devel-



CHAIRMAN George M. Haas, Haas-Davis Packing Co., with two of the speakers at the scientific and operating session: Dr. D. M. Doty, assistant director of research and education, American Meat Institute Foundation, and Dr. J. B. Evans of the AMIF.

opment of better cladding materials is being pressed by government and private laboratories.

Based on the above statements it would appear that the extraction of heat in the form of low pressure steam and hot water would be simpler and less expensive than the production of high pressure steam for operating electrical generators.

As reactor technology advances and radiation processing in industry reaches a point where there is a demand for gamma radiation reactors, serious thought will be given to the use of these reactors as heat sources as well. However, in most cases it may be necessary to have standby boiler plants to operate during reactor shutdown periods, in which case the economics of the situation may dictate against the dual purpose design.

COST: One of the most debatable points in the entire field of commercial use of atomic energy in general, and of radiation in particular, is cost. There are others better qualified and braver than I—Brownell of the University of Michigan, Briggs of Oak Ridge, Loftness of Atomics International, to name a few—who have quoted costs of power, costs of radiation, costs of construction and fabrication, and so on.

Unfortunately many of the figures quoted must of necessity be based on certain artificial factors, such as the cost of fissionable material itself, the cost of recovering the unspent fuel from used elements, and the cost of disposing of radioactive waste. I believe that most of you are already aware of the wide range of cost figures quoted for electrical power produced by reactors, even though there is not yet in operation a single commercial power plant on which we can firmly base cost figures.

In the case of food processing even the location of the decimal point in cost figures is questioned at times. The majority of carefully prepared reports suggest that a value of between 3c and 7c per pound is a reasonable range for meat sterilization costs, while pasteurization costs are only 5 to 25 per cent of these values.

To develop these estimates one must do much extrapolation from known values—always a dangerous mathematical exercise—and must consider that, except for the irradiation facility in the processing line, there will be no major modification in the present design of processing plants. One of the purposes of the Army Ionizing Radiation Center is to determine whether or

not there will be extensive changes in food packaging, processing and handling, as well as to develop experience and information on which one may be able accurately to base cost figures for processing on a pilot plant scale at least.

The justifiably cautious program which the FDA and the Army Surgeon General are pursuing in evaluating the nutritional adequacy of radiation processed foods will require several more years before the process is considered acceptable. During this time extensive advances in reactor and radiation technology can be expected, and I would hesitate even to estimate what effect these advances will have on cost figures.

It must be borne in mind that we are only in the

HARVEY RASMUSSEN, vice president of L. C. Spiehs Co., Inc., Chicago, (center) looks slightly surprised while David Weissman (left), Drying Systems, Inc. of Chicago, seems amused at comments of John S. Bartley of the Rath Packing Co., Waterloo.



second decade of the atomic era and have barely wet our feet in the sea of nuclear knowledge.

In summary, there are several reactor concepts which, at least on a theoretical basis, lend themselves to development as dual-purpose facilities, but none has yet been proven. The power needs of the world have justified the emphasis on the use of atomic energy to produce electricity or to be used for propulsion.

As commercial needs for high intensity gamma radiation develop, more emphasis will be given to dual-purpose reactors, especially as more stable substances for reactor components and more positive control methods are uncovered.

It is quite unlikely that a reactor ever will be built in the Chicago Stockyards, but, should the radiation processing of meats prove to be acceptable, it is probable that packing companies will build facilities in the vicinity of large power reactors or will build smaller reactors as part of processing plants outside of metropolitan areas.

ROUND TABLE discussions at luncheon preceded sausage committee meeting which was held on Saturday, September 29.



Dry Coils are Better



SAYS DANIEL D. WILE of Refrigeration Engineering, Inc., in an objective survey of the advantages and disadvantages of brine spray and dry coil refrigeration.

COOLING OF HOT carcasses is accomplished today with several types of brine spray systems as well as several types of "dry" coil systems. Any of these methods, if correctly designed and properly applied, will produce acceptable results.

Certain types of brine spray systems appear to have low first cost, although this is decisively offset by increased operating cost and especially if maintenance due to corrosion is considered.

The preparation of this paper has included an investigation of West Coast installations of various types of carcass chill rooms, using both brine spray and dry coil systems. Our efforts were confined to beef carcass coolers where chilling is more difficult due to the problem of penetrating through greater mass.

The field investigations have been supplemented by a review of the literature and a study of engineering principles involved.

The field observations, combined with engineering analysis, lead to some very interesting and illuminating conclusions.

The following types of brine spray and "dry" coil systems are in common use and were considered by the authors:

BRINE SPRAY SYSTEMS:

1. The chilled brine spray system in which brine is cooled in a shell and tube or similar chiller and sprayed into a bunker where the impingement of the spray assists air circulation through the bunker and thence through the refrigerated space.

2. The sprayed coil system with gravity air circulation generally consists of bare pipe ammonia coils operating below freezing temperature with brine sprayed continuously over the coils to prevent frost accumulation. The coils are generally located in a bunker above the refrigerated space.

3. Sprayed coils with forced circulation are generally in the form of factory-assembled units equipped with either bare pipe or extended fin coils.

"DRY" COIL SYSTEMS:

1. Water defrost coils that are defrosted rapidly by periodically flowing water over the coil with fans and refrigeration shut off.

2. Coils defrosted by hot gas.

3. Coils without external defrost means they are periodically cut off from the refrigeration system and

defrost naturally due to the circulation of warm air through the coil.

Any of the above "dry" coil types are available as floor-mounted or ceiling type units and in some instances have been erected on the job as bunker coils.

METHOD OF COMPARISON: The performance of a hot carcass cooler depends on many factors in addition to the use of brine spray or "dry" coils. Each of the following items has an important effect on product quality and shrinkage:

1. The rate of cooling as affected by the capacity of the refrigeration system;
2. The surface temperature of the evaporator;
3. The method of controlling refrigeration capacity after the peak load is passed;
4. The quantity of air circulated and method of circulation in the room.

These items apply to any type of refrigeration system and the neglect of any one of them can influence performance more than the choice of brine spray or dry coils.

An ideal method of comparison would be to find a brine spray and a dry coil installation that were identical in every respect and that could be operated in identical manner on the same quality of cattle. Lacking such an ideal situation, it is obviously unrealistic to draw conclusions in favor of brine or dry coils without a careful consideration of these other important factors.

RATE OF COOLING: Rapid cooling of hot beef carcasses has been frequently recommended to insure high quality, yet there has been some question as to whether low air temperatures in contact with the warm carcasses might increase shrinkage. This is not borne out by field observations or theoretical considerations.

On the contrary, there appears to be a decided advantage toward minimum shrinkage by holding low air temperatures during the initial cooling period if proper controls are provided to maintain high humidity as the refrigeration load is reduced.

Well-designed plants, where we were able to obtain capacity data, averaged close to one ton of available refrigeration capacity per ton of maximum daily kill. This includes an average figure for heat leakage and other room loads in addition to the product load.

With this capacity available, air temperature at peak load conditions should stay below 38 or possibly below 35°F.

RELATION OF EVAPORATOR CAPACITY TO PRODUCT SHRINKAGE: The capacity of an evaporator coil depends almost directly on the difference between air temperature entering the coil and the evaporating temperature of the refrigerant. This is commonly referred to as the "temperature difference" or TD. A large increase in cooling capacity can be obtained from the same cooling unit, by operating at a larger temperature difference.

The increased capacity, however, requires lower surface temperature and causes lower humidity of the air and greater shrinkage. This relationship is well proved in our industry. It is thus essential to have sufficient evaporator capacity to carry the load at a reasonably high surface temperature.

Good practice in our industry for storage rooms is to select evaporators on not over 10° difference between air and refrigerant temperatures. It should be noted that the hot carcass cooler approaches the characteristics of a storage room during the latter part of the cooling period.

An unusual condition exists through the loading hours in a hot carcass cooler. During this period the air is in a nearly saturated condition due to the heat and moisture that rise from the shrouds and wet carcass surfaces. The surface temperature of the evaporator during this period has little or no effect on dehumidification.

Thus it is practical to select cooling equipment on the basis of a wide temperature difference (TD) during the peak load condition with proper controls to reduce this TD as load falls off. Good practice indicates a selection of not over 20 and preferably 15° TD at the peak load capacity (one ton of refrigeration per ton of daily kill). With proper controls this TD should then reduce to less than 10° toward the end of the cooling period.

The performance of bare pipe and extended fin coils can be compared. The outside surface of a bare pipe will have a temperature that is close to the refrigerant temperature within the pipe. The surface of a finned pipe will be appreciably warmer than the refrigerant and, thus while requiring more surface to do the same work as a bare pipe, will cause less dehumidification.

This is an important consideration when comparing brine spray and dry coil refrigeration because so many of the older brine spray systems used bare pipe. When these systems are changed to modern dry coils, the improvement in shrinkage may be due less to elimination of brine than to the use of greatly increased evaporator surface.

CONTROL OF REFRIGERATION CAPACITY: The loss due to carcass shrinkage is certainly recognized by every meat packer, yet the importance of proper control of refrigeration equipment has not been fully realized in its relation to this loss. A reduction of only one-tenth of 1 per cent shrinkage in a plant handling 100,000 lbs. of beef per day represents a saving close to \$10,000 per year at today's market. It is our belief that savings of several times this rate are possible with a small increase in original equipment cost.

A carcass cooler requires a wide range of refrigeration capacity between peak and minimum load. Rapid cooling with minimum shrinkage requires careful attention to the method of reducing the refrigeration capacity as the load falls off.

The ideal arrangement is a modulating valve in the suction line controlled from a thermostat that responds to the room air temperature. This system reduces capacity by increasing the evaporating temperature in the cooling coils and thus keeps shrinkage at a minimum.

During loading hours full compressor capacity is utilized and a large difference exists between air and evaporating temperatures, air leaving the evaporator is at a minimum and well below freezing.

After the completion of loading, when air temperature in the cooler has dropped to the control point, the thermostat begins to throttle the valve in the suction line. As the carcasses continue to cool, refrigerant pressure (and temperature) in the evaporator along with the air temperature leaving the evaporator gradually increase.

Throttling of the suction line causes a decrease in suction pressure which can be used to unload automatically compressor cylinders or otherwise reduce compressor capacity.

At the E. B. Manning & Sons' Co. operation in Whittier, Calif., a modulating valve in the suction line is controlled from a thermostat in the return air duct set for 32°. During peak load this temperature rises above 32° for a short period of time, then returns to the control point and holds there during the remaining cooling period.

During peak load the valve in the suction line is wide open for full compressor capacity, with the evaporating temperature holding at 18°F. As load decreases the suction line valve begins to close and the evaporating pressure in the coils increases, usually reaching an evaporating temperature of 25°F before opening the next morning.

This system will work either with individual compressors for the carcass chiller or on a plant system. At E. B. Manning & Sons' Co., two compressors are on staged pressure control and both compressors are provided with cylinder unloaders so that a gradual reduction of capacity is obtained with the smaller of the two compressors carrying the final hours.

This system is also provided with two-speed fan motors with fan speed increased during the peak load by an additional thermostat responding to the rise in room air temperature during that period.

Less expensive control systems are available that will do an acceptable job but usually the sacrifice in performance does not justify the saving of initial cost. One method of control that should be avoided is the shutting off of liquid refrigerant fed to the evaporators by the use of a stop valve or throttling valve in the liquid line. This system causes low evaporating temperature and correspondingly low surface temperature and this in turn causes increased shrinkage.

AIR CIRCULATION: Air circulation in the hot carcass room has all too often been on a hit-or-miss basis. Gravity circulation from overhead bunkers frequently produces downward circulation in one part of a

cooler and upward circulation through other parts. Similar patterns were observed with forced circulation systems that were improperly designed.

In some coolers certain locations in the room tend to produce sour bone or slime due to inadequate circulation. Slime may also be caused if air that has become warm and humid by circulation over freshly loaded carcasses then comes in contact with the cold surfaces of carcasses that have been in the cooler for some time.

It is not uncommon to find jobs with inadequate air circulation where the cold air merely drops to the floor, then rises slowly as it receives heat from the carcasses. This type of circulation, even with low air temperature, results in slow cooling of the rump section with a tendency toward excessive shrinkage of the fore section.

Since the thickest part of the carcass hangs near the top, there is an advantage in reversing the natural circulation so that coldest air comes first in contact with the rump. As illustrated in Figure 1, this has been accomplished by discharging cold air from the evaporators at low velocity into the space above the beams so as to form a blanket of cold air over the entire room.

The cold air settles down between rails and recirculates up again as it receives heat from the carcasses. There is ample space between rows of carcasses for this type of local circulation and it occurs at a rapid rate while the carcasses are hot.

Figure 2 shows an arrangement of water defrost type ceiling blower coils in process of installation. There are five of these coils mounted above the beams in each of two rooms designed for a total of 200,000 lbs. of beef per day. Each coil has a refrigeration capacity of 10 tons at 20° TD (peak load condition).

Figure 3 shows an arrangement of ceiling blower coils provided with deflectors to direct air from the coils downward through the beams. Deflectors of this type are seldom needed and their use is uncommon. Measurements in this installation indicated that a cold blanket of air existed in the entire space above the beams and resulted in faster cooling of the rump section than observed in other jobs.

EFFECT OF BRINE ON SHRINKAGE: The humidity of

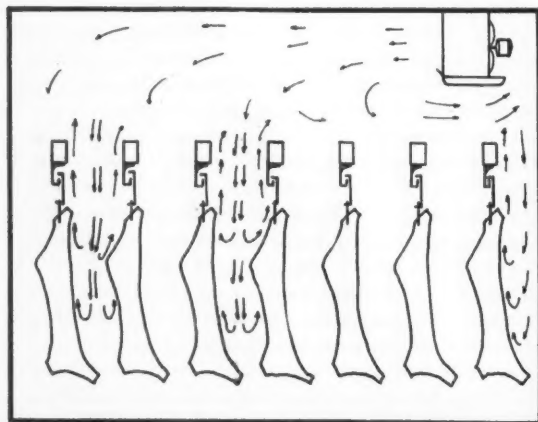


FIGURE 1, Cold blanket helps to chill rump section of carcasses.



FIGURE 2: Water defrost ceiling blower coils being installed.

air in contact with brine is lower than in contact with ice or frost at the same temperature as the brine. While this depression of humidity over brine is well known, there has been little published discussion of its effect in a carcass cooler. If a brine system and a dry coil system operate at the same surface temperature, the humidity must be lower with the brine system and will cause some increase in shrinkage. Equal performance can be obtained with the brine system only if it has sufficient surface to operate at higher surface temperature than the corresponding dry system.

Table 1 indicates that the surface temperature of a brine spray system must be at least 2°F higher than the surface of a dry system for comparable dehumidification effect. Any notion that the presence

TABLE 1: TEMPERATURE OF NaCl BRINE AND ICE HAVING THE SAME DEHUMIDIFYING EFFECT

Vapor Pressure MM of Hg	Temperature of 1.15 Sp Gr NaCl Brine	Temperature Of Ice	Temperature Difference
2.89	25	22.2	2.8
2.35	20	17.8	2.2
1.90	15	13.5	1.5
1.50	10	9.0	1.0

of a brine spray has some inherent effect to increase humidity above that obtained with properly designed dry coils can not be justified by field observations or known theory.

FIELD OBSERVATIONS: Field observations were made at some twelve West Coast beef packing plants in order to determine operating procedures and general results. In six of these plants measurements were taken of air and carcass temperatures at the beginning and at the end of the cooling period along with other readings on the refrigeration system.

Weights, for determining shrinkage, were obtained in five of these operations. Temperatures were measured at several locations over the surface of carcasses by the use of contact thermocouple and bone temperatures were taken by a skewer-shaped thermometer. These six jobs have the following types of refrigeration systems:

1. Straight brine spray in overhead bunkers with gravity circulation.
2. Brine sprayed coils in factory-assembled units located overhead with forced circulation through distributing ducts.
3. Floor type, water defrost units located overhead

with forced circulation through diffusers mounted on the units.

4. Water defrost, ceiling blower coils located overhead (two jobs).

5. Water defrost bunker coils with provision for forced circulation.

Maximum air temperatures during loading varied from 36 to 44°F and then, at the time of opening, were in the range of 32 to 34°F for the six jobs that were observed. Bone temperatures at the end of 21 hours in the chill room varied all the way from 51 to 58°F in carcasses averaging close to 550 lbs. and, in one instance with an 852-lb. carcass, was 63°F.

The extent of carcass shrinkage during cooling is difficult to measure accurately and even more difficult is the separation of the actual dessication of the product from the other items involved in shrinkage measurements. The routine practice is to weigh the carcasses just before entering the cooler as they pass over a section of the overhead rail connected to a scale. The weight, at this time, includes the water in the shroud along with wash water that clings to the exposed meat surfaces and hangs in crevices. The weight of this added water is often included in shrinkage figures and may represent over 1 per cent of the carcass weight. Furthermore, there is some drip of body fluids and loss of suet particles.

For this study, the carcasses were weighed just prior to washing, then were washed and shrouded in the usual manner. The next day, generally after about 20 hours in the cooler, they were again weighed, with shrouds removed, on the same scale. This procedure involved some disruption of routine production and could only be accomplished in those few plants that were willing to give wholehearted cooperation.

Weights taken on from one to six carcasses in each of the five jobs showed shrinkages from 0.54 per cent to 1.2 per cent for the 24 hours or less in the hot carcass room. The two lowest shrinkage figures, 0.54 and 0.60 per cent, were recorded in the two installations with water defrost ceiling type coils.

The most significant characteristic of these two jobs was that in both of them the evaporators maintained a cold blanket of air in the space above the beams with a circulation pattern similar to that shown in Figure 1 on page 188.

PERFORMANCE: Although our field investigation showed the lowest shrinkage rate on two water defrost installations, it is believed that equal performance can be obtained with brine spray or dry coil systems. The brine spray evaporator must be designed for a higher surface temperature than the dry evaporator to compensate for the dehumidifying effect of brine.

This would require considerably more surface than has usually been used with brine in the past. Attention must also be given to the method of reducing refrigeration capacity after the peak load is passed, and to proper air quantity and circulation patterns in the room.

Water defrost coils of the floor type, ceiling type and bunker type have proved highly successful for hot carcass cooling with defrosting performed as infrequently as twice per day and with fins spaced four per inch. When properly installed, defrosting should



FIGURE 3: Ceiling blower coils equipped with defectors.

require only a few minutes and can be accomplished entirely by automatic control.

Some operators claim that, in addition to removing frost, the water has the beneficial effect of keeping coils and drain lines free of slime or other foreign matter.

EQUIPMENT COST: Cost of equipment is difficult to compare due to variation in local conditions. The older plants, tended towards the bunker type brine spray coolers or the sprayed coil coolers using gravity circulation. Low first cost was frequently attained with less than the optimum amount of surface. The cost of added building construction to accommodate bunkers must be included in the cost of refrigeration equipment and makes this type of system rather expensive. Newer plants tend toward factory-assembled units with sprayed coils or with dry coil coolers using water or hot gas defrost.

A more recent tendency is toward the ceiling type of water defrost or hot gas defrost units using propeller fans. Between a factory-assembled brine spray unit and a similar water defrost or hot gas defrost unit there appears to be little difference in installed cost, usually in favor of the water defrost or hot gas defrost units.

Least expensive of the dry coil units are those without external defrost means but more units must be provided to balance longer defrost time. Furthermore, if room temperature is to be held close to 32° for rapid carcass cooling, then some form of fast defrosting becomes necessary.

COST OF SALT: The cost of salt used in brine spray systems cannot be ignored. One plant with a daily kill of 480,000 lbs. uses 3,000 lbs. of salt per day for the hot carcass cooler at a cost of \$21 per ton or \$7,875 per year. This is a rate of \$1,640 per year per 100,000 lbs. of daily kill and was verified with only slight variations by checks on several other plants. A true evaluation of this cost should include overhead on the purchased material and cost of labor to handle the salt.

Brine spray systems are also available with reconcentrators that eliminate or reduce the cost of adding salt. Equipment cost runs high and operating costs are increased by addition, to the brine or anti-freeze, of heat that must be balanced with additional compressor capacity.

MAINTENANCE: The deterioration of metal parts

due to the presence of salt in the air and the additional cost of maintenance due to this deterioration are a highly important factor. Figures 4 and 5 show a dramatic comparison between conditions commonly



FIGURE 4: Clean rail structure found in a dry coil cooler.

observed in dry coil and brine spray jobs. In order to remain in operating condition, overhead rails must be wire-brushed and recoated with protective material at frequent intervals.

One plant has a schedule of reworking the rails on a 30-day schedule, while in others it may extend to a three-month period. We were unable to get even an approximation of maintenance costs on rails, although one plant figures 40 hours of labor per week for each 400 ft. of rail. Observations at this plant indicated inadequate maintenance evidenced by excessive accumulation of rust on rails and switches.

Deterioration of rails and switches often hinders the movement of carcasses along the rails and presents a definite worker hazard from falling trolley and hook assemblies. It should also be noted that the cleaning of a rail involves loss of cooler capacity. In some instances three rails are kept empty to avoid damage to carcasses on rails adjacent to the rail being cleaned.

In addition to the deterioration of overhead rails, the corrosion from salt extends beyond the refrigerated space throughout the entire building as evi-



FIGURE 5: Rail condition is poor in this brine spray cooler.

denced by deterioration of elevator equipment, electrical distribution systems, and other parts of the structure. Additional maintenance is required throughout the plant to avoid breakdown as well as unsightly conditions.

CONCLUSION: Although investigation in the field showed the lowest shrinkage rate on two water defrost installations, it is believed that equal performance can be obtained with brine spray or dry coil systems. The brine spray evaporator must be designed for a higher surface temperature than the dry evaporator to compensate for the dehumidifying effect of brine. This would require considerably more surface than has commonly been used with brine in the past. Attention must also be given to the method of reducing refrigeration capacity after the peak load is passed, and to proper air quantity and circulation patterns in the refrigerated room.

Water defrost coils of the floor type, ceiling type and bunker type have proved highly successful for hot carcass cooling with defrosting performed as infrequently as twice per day and with fins spaced four per inch. When properly installed, defrosting should require only a few minutes and can be accomplished entirely by automatic control. Some operators claim that, in addition to removing frost, the water has the beneficial effect of keeping coils and drain lines free of slime or other foreign matter.

With modern defrosting methods that are available today and with the proved success of dry coil equipment, there is a very strong argument in their favor. Equal or better performance can be obtained at a very considerable saving in operating cost along with the elimination of deterioration and maintenance costs that accompany the use of brine.

ACKNOWLEDGMENT: The authors acknowledge the whole-hearted cooperation and kind help from the following individuals:

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E. Fewkes, chief operating engineer, Atlas Meat Packing Co., Vernon, Calif.

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50 Years Ago and Now



CHAIRMAN J. M. FOSTER points out that the Institute has paid big dividends to its members and the industry over a half-century and today, as in 1906, stands ready to meet the packers' problems.

AS ALL of you who have read the printed program know, this is the one time a year I am supposed to be profound. "Today," this impressive document states, "Mr. Foster will examine the path the industry should follow during the year ahead if it is to keep pace with the expanding economy." And so on.

This is my second year on this particular rostrum at this particular time. Undoubtedly, I will be more profound than ever. Speakers, like something else I've heard about, improve with age.

So, let's get started. The first profound thing I want to say is that I am not going to "examine the path the industry should follow if it is to keep pace with the expanding population and economy." That's about as profound as a speaker can be, in this business of so many unpredictables, I'm sure you will agree.

Last year, during the 1955 annual meeting, which was more than a month later in the year than this one, we had a real problem as I talked to you from this rostrum. It was a problem which could have had most serious effects on the future of this industry and on this country's farm economy. Pork was literally coming out of our industry-wide-ears then, and even more poured in from mid-November through the early Spring, after we all went back home.

The way that we got after that problem and licked it was one of the finest examples of an industry pulling together to solve its problems that has ever come to my attention. Even though I may be slightly prejudiced, the national recognition given the huge pork promotion we launched, and paid for, more than justifies this glowing praise.

This pork promotion proved how an industry can work together to solve its own problems. And this industry can boast of a lot of other examples of working together in recent years, too. Now, here's a quote I wish you would identify:

"It is not to be denied that there are frictions, jealousies, enmities, in the packinghouse trade. I believe that these conditions exist because you do not have opportunities for getting personally acquainted with each other.

"You have created prejudices against each other without even knowing why, and yet your interests are all exactly the same, whether your plants are small or large. With the strongest hands in the land raised against you,

you should work together legitimately, progressively, and earnestly for the common good, instead of wasting your strength in tilts with each other."

I don't suppose I fooled anybody by not identifying that quote. Most of you by now have read that fine story on the Institute's history in the current issue of *THE NATIONAL PROVISIONER*. The speaker was George McCarthy, the *PROVISIONER*'s business manager in 1906. He was giving his audience hell 50 years ago for *not* working together. I just finished praising you for the fine job we as an industry did *in working* together. Wherein lies the difference?

It isn't in the audience. He was talking to meat packers, also. Many of the same companies which you represent today were in this audience. The setting was different,

THE WHITE HOUSE
WASHINGTON

September 29, 1956

TO THE AMERICAN MEAT INSTITUTE:

Through fifty years the American Meat Institute has worked closely with the Department of Agriculture, state departments of agriculture and colleges, with livestock producers and consumers, in programs to improve the entire range of the livestock industry from farm to home table. Certainly, tremendous advances have been made in quality of product, in distribution, in consumer demand and in the industry's contribution to a sound and dependable national economy.

The Institute and its members, using all the talents, genius and initiative of individuals and independent groups, working with the agencies of local and Federal Government, have demonstrated in visible fashion the American way of solving problems and getting results for the general benefit of the country.

I congratulate all of you, and particularly your honored guests, for this half-century of constant progress. My best wishes are yours for continued success in helping America toward a more prosperous economy, a more healthy people.

Dwight D. Eisenhower

but only by a few blocks, the distance from the Palmer House to the old Grand Pacific hotel.

The real difference, the significant one, is the 50 years it took for a huge industry to come of age, and an organization called the American Meat Institute.

It's not easy to sum up the accomplishments of a trade association during its first half-century. When a corporation points with pride to its golden anniversary, it talks of growth of sales, fine quality products, regular payment of dividends, and so on. That isn't so with a trade association. There are no products, no sales record . . . very few tangibles.

In the Institute's case, there are dividends, however. This industry has received them from the Institute regularly since 1906. I think one of the biggest and easiest to appreciate dividends is this:

Today, we work in a climate of more favorable public opinion. Today, there are fewer unsubstantiated attacks on this industry by unreliable publications, or persons, interested in circulation, and not necessarily in the truth.

Individuals with the wrong ideas or information about this industry are "shown the light" by the Institute. Now, many stories about the industry are checked with the Institute before they are printed. The truth about meat packing appears in the public record.

Today, 50 years later, this industry's head is not buried in the sand. No longer do we "shut up like clams," as Mr. McCarthy accused us of in 1906. Our association, the Institute, helped get us out of the sand, and it is helping us stay out of it . . . out of the misunderstandings and mistrust that always result from a lack of knowledge of the other fellow's motives and methods.

"Working together for the common good" has been the story of the Institute's first 50 years. The extent to which this motto was lived up to can best be judged by the broad extent of the Institute's services and facilities now, compared with its meager beginnings in 1906, and by its ability to go to work on industry problems on short notice. Let's examine these problems now.

Before Congress adjourned, bills were introduced to transfer jurisdiction over trade practices of the meat packing industry from the Packers and Stockyards Branch of the USDA to the Federal Trade Commission. This was presumably because of unproved assertions that the P & S Branch has failed to enforce the law. These bills were introduced too late in the session to receive consideration, but we may expect similar proposals to come up next year.

Certainly, the problems of the industry and those of agriculture generally will not receive as sympathetic treatment from the FTC (which often is more concerned with protecting the consumer from petty frauds), as we have come to expect from the Department of Agriculture. It looks as though we have a fight on our hands, and you can bet that the Institute is going to pursue this one through to the limit of our abilities.

Another "hot" issue for meat packers is the bill introduced by Senator Humphrey of Minnesota during the last session of Congress. It would have compelled us to adopt new slaughtering methods without regard to their practicality. Extensive hearings were held on this one last spring. The Institute presented testimony indicating ways in which the industry is working toward a solution of the various problems involved through the Institute's

OFFICERS OF THE AMERICAN MEAT INSTITUTE

All officers of the American Meat Institute and directors whose terms expired this year were re-elected at the golden anniversary meeting, and four new members were named to the board of directors, increasing board membership to 51.

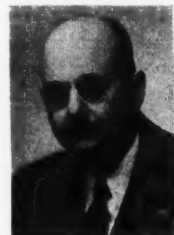
One director was added for each of the terms expiring in 1957, 1958 and 1959. They are: Carl Weisel, jr., president, Weisel & Co., Milwaukee, 1957; W. L. Medford, president, Medford's, Inc., Chester, Pa., 1958, and H. P. Dugdale, president, Dugdale Packing Co., St. Joseph, Mo., 1959. George L. Heil, jr., president of Heil Packing Co., St. Joseph, was named to fill a vacancy for a term as a director expiring in 1958.

J. Morrell Foster, vice president of merchandising and procurement, John Morrell & Co., Ottumwa, was re-elected chairman of the Institute's board, and Wesley Hardenbergh was re-named as president. Continuing as vice chairmen are: W. A. Barnette, sr., Greenwood Packing Plant, Greenwood, S. C.; A. W. Brickman, Illinois Meat Co., Chicago; John F. Krey, Krey Packing Co., St. Louis; Cornelius C. Noble, Noble's Independent Meat Co., Madera, Calif.; Walter Seiler, Karl Seiler & Sons, Inc., Philadelphia, and W. F. Schluderberg, The Wm. Schluderberg-T. J. Kurdle Co., Baltimore. Other officers are: vice presidents, Homer R. Davison and George M. Lewis; treasurer, H. Harold Meyer, The H. H. Meyer Packing Co., Cincinnati, and secretary and assistant treasurer, Roy Stone.

Directors re-elected for terms expiring in 1959 are: Fred Dykhuizen, Dixie Packing Co., Inc., Arabi, La.; Ernest R. Holmes, John R. Daily, Inc., Missoula, Mont.; E. W. Kneip, E. W. Kneip, Inc., Chicago; Louis F. Long, The Cudahy Packing Co., Omaha; Roy F. Melchior, Agar Packing Co., Inc., Chicago; H. Harold Meyer; Robert C. Munnecke, The P. Brennan Co., Chicago; D. E. Nebergall, D. E. Nebergall Meat Co., Albany, Ore.; Lorenz Neuhoof, jr., Valleydale Packers, Inc., Salem, Va.; Cornelius C. Noble; George A. Schmidt, sr., Stahl-Meyer, Inc., New York City; Walter Seiler; Sam S. Sigman, K & B Packing Co., Denver; F. W. Specht, Armour and Company, Chicago; George W. Stark, Stark, Wetzel & Co., Inc., Indianapolis, and Bertram C. Tackeff, New England Provision Co., Inc., Boston.



J. M. FOSTER



W. HARDENBERGH

committee on improved methods of livestock slaughter.

As a result, this particular bill was amended to provide only for the establishment of an advisory committee which would be directed to report its findings in two years.

The bill passed the Senate in the closing days of the session, but it didn't pass the House. Indications are that



SUGAR AND SPICE and all things nice tempted this line of women at the ladies tea on Saturday.

the House may conduct hearings at a later date, and the subject will probably come up for consideration by Congress next year.

If this bill had come up before 1906, before this industry was represented by the Institute in Washington, it probably would have become law in its original and not its modified form. Chances are that a lot of meat packers would have been out of business, or planning to go out of business, *right now*. The subject is far from a dead one. It's a good thing that our interests are properly represented through our national trade association, the American Meat Institute.

Now, I'll give you a few "sage" predictions about meat

supplies for the next year. By the way, these guesses will be intelligent and informed ones, because I got some help on them from the U. S. Department of Agriculture and from the Institute's department of marketing. We'll start with beef.

On the livestock side of the equation, it looks like breeding herds may increase a little bit more during 1956. Summed up for the housewife, beef supplies will be adequate during the winter months and consumers will enjoy bargains in pot roast, hamburger, and the finer cuts of beef.

The outlook for pork supplies isn't quite as good, but there will be plenty to go around. The 1956 spring pig crop now going to market is estimated at 53 million head. That's 2 per cent less than the 1955 pig crop.

The 1956 fall pig crop is expected to be around 35 million head, or 7 per cent less than the year before. Pigs from this crop will be marketed largely in the late winter and spring of 1957.

Overall, this means that market supplies of hogs will be somewhat less than last year, but the reduction will probably not be too apparent because it will show up during the peak of the winter movement—November to March.

While supplies of pork will be somewhat smaller than last year's near record, they will still be larger than two years ago.

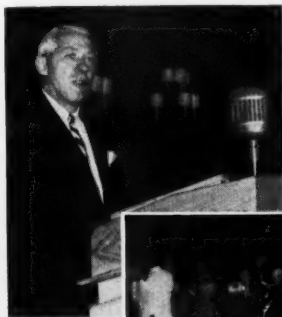
Consumers will undoubtedly find bargains this winter among the favorite pork cuts such as chops, bacon, loin roasts, and ham.

We could sum up the meat marketing picture by saying that there will be adequate supplies of meat for everyone at reasonable prices, but the supplies should not be large enough to create serious marketing problems in the industry such as we had last year at this time.

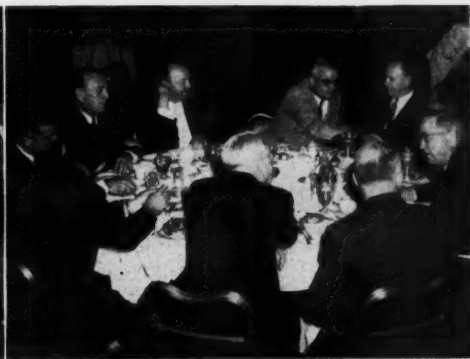
1906



1956



DR. ARTHUR UPGREN, left, Dean, Amos Tuck School of Business Administration, Dartmouth College, addresses "Look Ahead" luncheon. Photos by NP cameraman indicate interest in the topic "Forecast For The Future" among those who attended the luncheon.



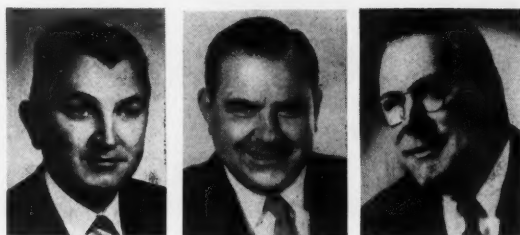
We Sell Your Meat

MODERATOR C. R. MUSSER of Wilson & Co. presides over a panel discussion by retailers **SCOTT DETRICK** of Scotty's Markets; **DONALD R. GRIMES**, Independent Grocers' Alliance; **H. V. McNAMARA** of National Tea Co., and **SETH T. SHAW** of Safeway Stores, Inc., on subjects of mutual interest to packers and retailers, including the future of consumer-packaged frozen meats.



C. R. MUSSER

SETH SHAW



S. DETRICK

DON GRIMES

H. McNAMARA

MODERATOR CHARLES R. MUSSER: The first executive that I want to introduce is Scott Detrick, who is treasurer of the trade association of his industry, the National Association of Retail Grocers. His story of success in the food business is almost as spectacular as the growth of the business itself. He and Joseph Rable, his partner in Scotty's Markets, opened their first food store in Louisville in 1948. Now, only eight years later, their three stores employ 60 people and do a gross each year of slightly less than \$2,000,000. His stores each have personality. This is symbolized by the fact that he gives free coffee away twice each day.

Our next panel member, Donald R. Grimes, president of Independent Grocers' Alliance, is an executive who belongs to the shirt-sleeves school of getting a job done. He started in a business founded by his father with the store installation crew, and he went through almost every job in that organization to reach his present position as president.

The third panel member is Harvey V. McNamara, president of National Tea Co. He started in the food business at the age of 12, making deliveries in a horse-drawn wagon in St. Louis. After years of applying the golden touch of success to the various operations of the Kroger Co., he moved to National Tea in 1945. National Tea, at that time, was not doing so well. As a matter of fact, the company sold approximately \$96,000,000 that year. This figure has increased more than five times in ten short years under the direction of Harvey McNamara.

Our fourth panel member, Seth Shaw, vice president of Safeway Stores, Inc., studied plant physiology and organic chemistry in college, later taught agricultural marketing at Brigham Young University and then served as commissioner of agriculture for the state of Utah. His work with Safeway Stores started a good many years ago and he was consultant to Safeway in

all phases of the meat business. He served all divisions of his large company as a consultant.

We have tried to select questions that were sent to the Institute by a lot of people. The first question is, "What determines the stocking of new items in your stores?" The second part of that question is, "Published percentage figures of the last few years have indicated a decline in the net profits of large retail food organizations; if this is caused by competition in the industry, how do you visualize supporting your investments in the future?" Mr. Grimes, would you like to answer those for us?

GRIMES: What determines the stocking of new items, I think, is rather an academic question and probably, I am the only member of this panel who is not a meat man. I think that we should consider several points. Will it save time? Will it save effort? Will it please the user? Will it have a social acceptance? Has it been sales tested? Will there be a strong selling program behind it? And if I were a chain store man, I would ask this question, "Has it been thoroughly tried out on the independent?"

The second part is a very important question. The net profits, percentage-wise, seem to be going down; I think they will continue to go down unless something definite is done to correct this. Competition, of course, is bringing this about. The ways in which we can meet such a situation, I believe, are manifold, one of which is through labor-saving devices. Another is through non-food departments. We don't necessarily lower operating costs on non-food items; we have a tendency to increase costs, but we increase gross profits at the same time so we can increase the overall gross, percentage-wise, if the proper kinds of non-food departments are installed.

The larger stores are an answer to this problem because they tend to reduce operating costs up to a certain point, but I do believe we are reaching now the stage

where we are going to have the battle of giants and you know what happened to the dinosaurs. We feel that the stores that are in the 10,000 to 15,000 sq. ft. category are stores that can eventually win out in this competitive field. I don't think the mergers that are taking place are reducing costs except where they meet waste. Where a group of stores is taken over by an organization that has stores located close by and there is consolidation, I think there is a saving through mergers in that respect.

The labor-saving device at the wholesale and retail level is very important, and the electronic type of store is going to come into being. Some people laugh at it and think those who are doing anything with it have a bear by the tail, but the electronic store can reduce labor costs about 50 per cent and can reduce the checkout time about 85 per cent. If you can accomplish these two savings, you are going to be able to sell quality merchandise cheaper, and if that can be done, you can win.

MODERATOR MUSSER: Mr. Detrick, would you like to comment on that?

DETRICK: I agree with Mr. Grimes on the first question he talked about and the second question I can go along with somewhat, but I still believe that with all of these electronic stores and everything else, retailers still have to figure out means to get people to shop in those stores. We haven't found those magnets to bring people in unless we as retailers, and this goes for you packers, too, make ourselves a part of the community in which we do business, let the consumer know that we appreciate her business, make ourselves known in the community to get more customers. We have our fixed labor costs right along, like you packers have, but we don't know how many people are going to come in each week. Therefore, everybody has some kind of a promotion gimmick in the community, whether it be a Cadillac or a cake sale or what-have-you.

So, in answering the second part of this question, I would say retailers should do the things in the community that their customers appreciate. As a result, the labor costs that they have each week will be about the same, because about 75 or 80 per cent of their customers shopping day in and day out will be the same.

MODERATOR MUSSER: Do you want to comment, Mr. McNamara?

McNAMARA: Yes. As to the question of putting new items in our stores, I think maybe you would like an expression from the chain store angle. Every one of our branches, and we have ten, makes its own decision as to any item that is to be handled in the store. They have the right to say yes or no. In most cases it is the branch manager, the sales manager and the buyer who decide whether that item meets a new need or would merely replace another item.

An item must certainly serve the purpose and do all the things Mr. Grimes mentioned before we are interested in it except I do not agree with what he said about testing it first in independent stores. We are willing to try anything that will answer a need and be helpful to the housewife. I think we have pioneered in a lot of those things and we shall pioneer in the future.

As to the profit situation, I subscribe, not wholeheartedly, but fairly well to what Mr. Grimes has said about it. I do think competition has hurt all of us to some degree. Sometimes I think we try to take a too great markup in our business. I think the customer is

entitled to the same interests that we are, and we should try to give her food at a cheaper cost at all times, cutting all corners, and that goes from the packing plant on down.

MODERATOR MUSSER: May we have your views on this, Mr. Shaw?

SHAW: I would just like to add to what has been said. Some of these new items and labor-saving devices may decrease our gross margin, but they may or may not improve our profit. In other words, the individual is willing to improve his profit margin, but we assume he is competing on a new scale. So while he does reduce his gross margin, this may not improve his profit margin.

MODERATOR MUSSER: Do you want to comment on how these gentlemen can get their products into Safeway?

SHAW: We have a system similar to the one Mr. McNamara mentioned. We have a meeting of all our district managers. Each district manager has supervision of about 15 to 20 stores. Our supply manager and those associated with him are there and they discuss the item with the district managers. The district manager decides whether we will stock it.

MODERATOR MUSSER: Will you comment please on the matter of duplication by retailers of all or part of packinghouse processing facilities? That is part one of this next question. Part two is: Can the prepackaging of meats best be handled at the store level, warehouse level or at the meat packing level? Mr. McNamara, may we call on you?

McNAMARA: I think you called on me with a little malice aforethought, knowing that we do operate a meat packing plant as well as two pork packing plants. There was no desire on the part of the National Tea Co. to get into the meat packing business; 11½ years ago it was forced on us. When I went into National Tea, the company's stores had very few meat suppliers because over the years they had been nobody's customers. They had shopped around. It was a matter of price and it was a question of service that had been rendered previously.

I do not believe that we should have the great difference between the packer and the retailer that has occurred. I think that it is rather silly, but I suppose it was necessary. It was a case of trying to start working towards this self-service meat business, which is as great if not greater than the self-service grocery and will be even greater in the future. We in National wish that we didn't have to do that processing in our stores or our warehouses. We would rather have it done by the packer because we believe the packing plant is where it should be done and can be done more economically for everybody, including the consumer. I believe we have to put the consumer first at all times. If we don't, we are not serving our proper purpose.

The purpose of the food chain is simply the selling of merchandise. We should not be in any manufacturing business, but we are because we haven't received the things we need from some of the packers and some of the processors. As you move into that area, I think you will see us willing to move out just as fast as we can.

As to whether packaging of meats can be handled at

the store level, I think that was part of my previous answer. I would add to that, this illustration. Seven or eight years ago, I was invited to speak before the fish industry. I told my audience that the only people who had done anything to help the industry sell its product were the canners; they put it in a convenient package. Until the fish industry put its product in a consumer package immediately ready for the frying pan, I said, the fish people were not going to sell anything. I told them that the only thing they could do was to thank God there were so many Catholics because Catholics were the only people who kept the fish industry going.

Fish caused a lot of difficulty for us for a long time, and some of us decided that consumer packaging was the answer. Now 90 per cent of all fish sold to the retail trade is frozen fish, and I am sure that in the next ten years 90 per cent of all meat sold to retail stores will be frozen meat.

Maybe I am sticking my neck out, but I believe it and I want to say again that we are willing to cooperate. We think that the meats should be prepared in the packing plant; you can take the fat off, the inedible, and get more out of the meats for your use and for the consumer's benefit. We are for it 100 per cent as far as everybody in our company is concerned. We will try to cooperate along that line. We know it can't be done overnight, but we will try to help you in every way we can.

MODERATOR MUSSER. Mr. Shaw, do you have any comment?

SHAW: As to duplication of meat packing facilities, I think most of you are aware that during World War II we opened as many as 15 packing plants. At the present time we have one packing plant and that is for the slaughter of beef. During that same time, we did initiate and establish three sausage kitchens. We are still operating those three sausage kitchens, one in Wilmington, one in Wichita and one in Los Angeles. They worked out very well for us, and we will probably continue them. We may expand those operations; as of now, I don't know. I think that it depends very largely just on the job that you fellows do and how things go.

GRIMES: I think that any duplication is costly and should be corrected as soon as the entire industry can work it out. I know of one case where hams are prepared and wrapped very beautifully at a percentage cost and yet we have \$100-a-week men tear the wrapping off and prepackage the hams again through a duplicate process. I don't think that is a good thing for the industry. Blast freezing also is going on in the stores, which indicates a duplication of effort. I agree with Mr. McNamara on the point that in time the freezing will be done at the packer level and product will get into the stores merely in the packaged form and will be sold like peaches and everything else.

MODERATOR MUSSER: It looks to me as though packers and meat processors have quite a job to do. We will move along to the next question, which also is in two parts. First, will you comment on the trend towards warehousing of meats? Second, does the panel feel that private label meat products will

A SURPRISE SKETCH creating the atmosphere and reenacting the organization of the AMPA in 1906 by General Michael Ryan and George L. McCarthy was a highlight of the annual dinner on October 1. Other features included songs by the Morrell Chorus and a talk by comedian Joe E. Brown.

eventually replace the packer's brand? Can we ask you about that, Mr. Shaw?

SHAW: As to the trend toward warehousing, I believe that we will see more retailers warehouse their meats in the future than at the present time. At our meeting of the Association of Food Chains, a meat clinic was conducted a few months ago. I sat in the discussion group with representatives of 32 or 33 companies. We were asked how many of us now warehouse our meats. There were three or four of us in the group who said we do warehouse our meats. Then the group was asked whether others present planned to get into the warehousing of their meats or had warehouses under construction. Five or six others present at the meeting were thinking very seriously about it.

One of the questions they worried about and one that is pretty difficult to answer is: What kind of volume of meat must you handle to justify a meat warehousing operation, and what geographic area do you serve? Are the stores reasonably concentrated or spread over a wide area? That is another problem that has to be considered.

We have been very satisfied with our meat warehousing; it gives us a great deal of quality control. All the meats come in from one place where we can check quality and weights. We can break the carcasses; we can get better utilization of our fat. We break these down into wholesale cuts, and we trim them as nearly as we can according to how they are going to be cut in the retail store. That is, we are sure that we are not going to have tails on T-bone steaks if we take the tails off the loin in the warehouse, so we are very satisfied with our warehousing.

On the question of private labels, I think the retailer is motivated to a certain extent by the same thing that motivates you folks in the private label field. If we can sell the customer on our Lucerne milk, our Somerset franks, there is only one place where they can get Lucerne milk or Somerset franks. That, of course, is exactly the way you folks think in regard to your own labels. We are in the business of brand promotion just as you are in the business of brand promotion. We do not think about our labels as being our labels versus the national brand or any other brand. We like to think of our labels as being in addition to the other brands. I think that there are many good reasons why the retailer will use some of his own labels. I know that that has shown up in other industries probably more than in the meat field. We do business with a large number of canners whose entire production would serve us only for a short time. That means we would have this brand name for a short time and another brand name for a short time. Therefore, I think the private label has enabled us



to do business with many processors that we otherwise couldn't.

MODERATOR MUSSER: Getting back just for a moment to warehousing, Mr. Shaw, you mentioned T-bone steak. Do you feel that warehousing will continue to grow with the idea of processed fresh meats as well as such items as sausage and so forth?

SHAW: We do some of the processing in our warehouses and it has worked out very well for us, but we do not duplicate to any large extent the services the packer has formerly rendered to retailers. To some extent we do duplicate the services formerly rendered to hotels and restaurants.

McNAMARA: I believe all packers as well as all manufacturers are very cognizant of the change in merchandising by our great competitor, Safeway. That is a joy even to the competitors. Commenting on the warehousing end of our business and its needs, we think it is helpful to the packers as a whole in making delivery. We think it is helpful to our warehousemen for us to make delivery of all the products to our stores, rather than having six or eight packers deliver to each of these outlets.

As far as handling the meat in stock, we handle that the same as the packer does. We do not cut it down. We make no effort to trim it. We have no sausage plants. We don't intend to get into that type of business unless we are forced into it by a competitive situation, but you never can tell. That may happen.

On the private label merchandise, we feel the same. We are a nationally advertised company, with a nationally advertised brand, the National Tea. We intend to try to stay that way. We believe we have a right to offer everybody's products. We don't think we should be handling private label merchandise any more than is necessary to defend ourselves against competition.

We have some private labels. They are very limited. We have some manufacturing. It is very limited. As far as packinghouses are concerned, if any one wants to make an offer, let me know. I will be happy to talk to them. As to packing our own line, I think there are only a few items we need to have, bread and coffee and maybe a couple of other items that we have established in this market.

We don't intend to extend the private label business unless we have to competitively. Sometimes private label merchandise is sold for considerably less than the nationally advertised merchandise. The only difference in the cost is the national advertising put behind the product in competition with the private label products. We know definitely we can sell any advertised merchandise in our stores with a private label if we so desire just by displaying it. That has been shown over the years, but it is not our intention to do it anytime unless we are forced to because of the competitiveness of private label merchandise.

MODERATOR MUSSER: Mr. Grimes, would you comment on this please?

GRIMES: I think in the IGA we have our food suppliers who are warehousing cold cuts, bacon, sausage, franks, prepackaged items and frozen meats.

I think they will continue to handle more and more of those items at the warehouse level. We have two wholesalers that are now considering fresh beef warehousing. How far that will go, I don't know. They do have to have centralized warehousing in order to supply the stores properly as was brought out earlier in this discussion.

Relative to private brands, so-called, I think turnover to a great extent determines whether the manufacturer's brand is going to stay in the cases or on display. Years ago in IGA we fought the private brands with our own labels, and we did not succeed. However, the moment that we began to merchandise the nationally known items in a big way, we found that our overall sales increased and so did sales of our own brands. Consequently, we are very much in favor of promoting the nationally advertised product. When you have many items of bacon in a case, however, they are not going to stay, and the turnover is going to determine whether you have two or three left in the case. If it doesn't measure up, it won't be there.

MODERATOR MUSSER: Mr. Detrick, would you like to say a word on that?

DETRICK: As far as warehouse delivery is concerned, we don't have any of it, but it has helped us. The product that used to come into our stores got knocked around; there were tremendous loads. Now the trucks are delivering a lot of the warehouse merchandise to larger stores. Consequently, we get earlier delivery, and the stuff comes to us like it should, not all beat up and kicked around, because there is not so much stuff on the truck. As to the other question about private brands, I think private brands are all right in something like shortening. Consumers get as many biscuits out of one can as another, but it's different with meat. I hate for anybody to come into our stores and ask for a nationally advertised brand, and have the clerk say, "We don't have it, but this is just as good." It isn't so. Therefore, we concentrate on nationally advertised brands of meat, very few brands that do the top job. In turn, our employees have more time to serve people. They don't have to talk about so many brands.

MODERATOR MUSSER: I am sure either of these subjects could be a basis for a discussion that would last several days. As a matter of fact, some of us in our own respective fields have talked about them a great deal. I think this discussion gives us a pretty good picture of just what work we have cut out for us in advertising and other efforts that we must make on behalf of our own brands.

I would like to go right ahead and give two more questions here. First, what can we as meat packers do to help retailers sell more meat? That is a pretty big question. Second, what do you visualize as the future of retailing of meat and meat products? Mr. Detrick, I'll ask you to take that one.

DETRICK: I guess you noticed I was very quiet here on some of these questions and didn't answer like I should have because I was saving what time. I had for the subject that is at hand. What can you packers do to help the retailers across the country do a better job? That is what I am here for today,

and I think I have had enough practical experience to know a little about it.

Every retailer has pet ideas he likes to use in his business. We like to make the homemaker in our community think that we are the finest people in the world. We like to make her think we are successful. You packers have to do the same thing. She doesn't care how good we think we are. We have to prove it so those are some of the things I would like to talk on today.

First, I think the meat department in any food establishment is the one big magnet that draws people in. Canned goods are wonderful, and all that. I know they do a big job, but we have close personal contact in the meat and produce departments in our stores, and those are the ones that really get along and do the job.

Every grocer wants to be some packer's very, very good customer. Contrary to what you might think, grocers are not interested in a cheap price alone. They want service and quality and, to prove that fact, I have been a meat packer's customer for straight sides of beef in our town for the last eight years. I have never bought straight sides of beef from anyone except the main packer. I have not kicked about the price because I know 52 weeks out of the year he will keep me supplied. I am only buying 35 or 40 sides a week. That fellow will keep me in mind. On the other hand, sure, I speak out and buy extra cuts from other packers.

Here is the problem I find, especially with national packers that have branches in other parts of the country. A lot of times their policies don't come down through to that branch house, and I think you fellows need to know about it.

Just about three weeks ago a large national packer came into our stores and said, "We have a bunch of rounds in a certain city. Can you use them?"

I looked over my situation, what beef I had bought, and said, "Yes, I will put on a round sale next week." The rounds were to be delivered to me six days after the order was given, and I ordered some 65 or 70 rounds, I don't remember what they were beside the regular sides of beef. I had a store meeting with our people and said, "We are going to put on a round sale. A lot of people think beef is high. We are going to do a real job on the Choice rounds and keep them happy."

The day before the sale was to take place, the telephone rang. The salesman said, "Scotty, I am sorry, but we can't deliver the rounds to you tomorrow." He and a lot of packers still think that the individual grocers across the country don't know what is going on. I know what is going on. The rounds had gone up about 6c or 7c during this week, and the rounds were sold to somebody else at a higher price.

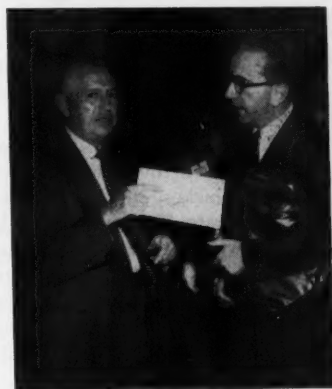
Those things go on and don't think the small retailer doesn't know that. I said, "That is perfectly all right, but the next time your market is flooded, don't come to me to get me to do the job."

By the same token, we retailers have committed past sins. We will come out with a great big ad in the paper: "Choice chuck roast for 39c." In small print it says,

"blade cut," but the customer really doesn't see this. She comes into our store and thinks she is going to get a center cut chuck roast for 39c, but the center cut chuck roast is 49c or 59c or whatever it may be.

We retailers should realize that the women of today know what is going on. They read housewife magazines, and other magazines. We may advertise ham at

NP CAMERA momentarily distracts O. Weber of Stahl-Meyer, Inc., New York City, as he emphasizes a point with an AML convention program during his conversation with Moritz Velleman of Ovimpex, Inc., New York City.



39c a pound. It is real small; shank end, about a 3- or 4-lb. ham, but it is nothing but a hock. It is advertised at a tremendous bargain. However, the retailer trims the hams so close they look like a soup bone when the housewife looks them over.

I want you to know I am not telling you packers what to do. I know we in the retail industry should clean up our end of it. We have a lot of faults. The merchant today is doing the business. He is the one who puts on the price. Whether stores are selling Choice, Good or Commercial, let it be the same each week when the housewife comes in.

I don't know whether you fellows know it or not, but we feel about 80 per cent of our business comes from the housewife of America. When you inform a man about something, you just inform an individual, but when you inform a woman, you inform the whole family, and the whole community in most cases. That goes for you national people in advertising, too.

You packers have to do a better job of informing your salesmen. Several months ago a salesman came into our store and said, "Look, we want to put in a brand of frozen foods. All we need is 7 ft. in your case." That is like asking the grocer for his right arm, without sitting down and explaining to him why and what kind of promotion is put on and what it is going to do for him.

When a retailer has planned his orders for a week to come, I don't think some little office boy or girl employed by the packer has a right, because they are short so many items, just to scratch it out. I think that retailer needs to know. I think the girl should call the retailer up and say, "Look, we had a breakdown in the bacon department." Don't come out and short the order. The retailer wants to know what is going on in your business. He should spend all the time he can spend in talking to Mrs. Housewife and selling her the product that you do such a wonderful job in producing.

More things have happened to me in the last year. As I say, I am not being critical about it, but I think

you packers need to know about it. You go ahead and do a tremendous job of advertising. You spend thousands of dollars talking about lean pork. It makes me laugh sometimes. It gets down to the branch houses, and the branch manager or somebody figures out a way just to leave a little more fat on that pork. When it comes into the store, your advertising isn't worth a hoot because some branch man has cut the pork the way he wanted to cut it since you bawled him out because you were not getting the profit you wanted.

All of us have to have a profit. You don't have to take it out on the housewife or the retailer because you want more profit on pork. You really carry on about what a wonderful job your ham is doing—hickory-smoked this, that and the other. I think everybody uses hickory-smoke; that is why I am mentioning this phrase. Yet sometimes a housewife finds a ham that has to be sent back because the packer had it around for a while. They get out into the industry. They not only give the retailer a black eye but think of the number of people who buy that ham after all that wonderful advertising you did in the newspapers and magazines.

As to the second part of that question, about the future of the meat industry and meat products, as everybody knows, more babies are being born every day. The salary of the average American has increased to more than \$5,000 a year. People have more money today than they have ever had before. But this is a political year, and talk is centered on the high cost of living. It comes right down to food.

Our housewives think nothing of going into a store and buying a \$30 or \$25 pair of shoes. That doesn't mean a thing. In fact, in most cases the housewife tries to save on the meat bill to do it. However, our politicians sometimes only have one leg to stand on, and they use that leg on us people that are in the food business in talking about how high the cost of food is, when it really isn't so. Food is cheaper today than it has ever been.

MODERATOR MUSSER: Mr. Shaw, would you like to comment on this, please.

SHAW: Since Mr. Detrick mentioned the hams, I have one pet peeve I would like to mention in that same connection. Have you ever tried to explain to a housewife what "ready to eat" means on the ham? We are called on to make that explanation. They say: "Well, we bought that as a cooked ham. Then we find it is tough or it was not cooked enough, or it lacked flavor, and it was labeled ready to eat."

When you have said the ham was ready to eat, you can't tell the homemaker that that meant the ham was safe to eat. I just think that ready to eat is one of the terms that we ought to give some serious consideration and probably discontinue.

Another pet peeve of mine is this defatting of beef carcasses. We have all heard a great deal about that, and many of us have had conversations about it. I know I have talked to a number of you about it, and I always get the same answer, and that is: "We will trim them any way you want them trimmed provided you are willing to pay the price for the new carcass commensurate with that trim."

We have trimmed them that way, and a number

of other retailers I have talked to have trimmed them, and it has been our experience we can pay the freight on this fat. We can trim them and still own the cattle to better advantage than when we buy the defatted carcasses from you. It just doesn't make sense to be paying all this freight on this fat. We can solve this problem only as you approached it on pork cuts, with closer trimming of pork cuts.

I think that the American Meat Institute ought to have a meeting with the packer representatives and retail representatives and try to determine what kind of trim the industry wants on these beef carcasses. Then the industry should move together where competition now sets the price on new carcasses. As long as you are ordering something other than what the trade has to sell, you just can't afford to buy it that way. As long as you are in the position of figuring the differential for heavier trimming on this carcass, it is not going to work on that basis. This is something that must be approached on an industry-wide basis, and I wish we would all give it some serious thought.

MODERATOR MUSSER: Thank you, Mr. Shaw. Do you want to comment any further on the question about the future of the meat industry?

SHAW: I agree with some of the comments that have been made, that we are going to move in the direction of frozen meats. I feel it will not come as fast as many of us think. Mr. Detrick mentioned about the man who asked for 7 ft. of the frozen food case. We put up a lot more frozen food counter space in every new store we build, but it is only a matter of a month or two until that store is short of frozen food space. That is one of the things that is going to hold frozen meats back.

On this matter of a centralized cutting plant, I don't believe it is really going to come in fresh meats until we do get into frozen meats. I think that the idea makes sense. I think it is going to develop, but I am not too optimistic in regard to how fast it is going to come.

Here is one further point. I know that some of the fresh, frozen meats that have been offered to the trade have had a very fine job of trimming and boning and preparing. The hardest job that we have is to sell the customer on the dollar and cents significance of that trim. That is hard to get over. I don't dispute that we need that trim but the price is too far away from the product in the fresh case, and that is going to be another problem to which we have to give a lot of serious consideration.

MODERATOR MUSSER: Mr. McNamara, would you care to comment on that?

McNAMARA: I subscribe to what Mr. Shaw said about trimming the cuts. I think it is important to do. An excellent job was done on pork at the beginning, but I think some of you slipped away from it. I agree with what Mr. Detrick has said to the packers to a degree. I want him to know that it doesn't happen only to independents, that purchases are made and later on delivery is not made. We have had the problem in a big way.

Mr. Detrick also mentioned earlier that 80 per cent of merchandise is sold to the housewife. I would say 98½ per cent of ours is sold to the housewives. We

are not in the wholesale business and we don't intend to get into the wholesale business so we are dealing with the housewife at all times. We must remember we have to deal honestly with the public. If we make a promise, we ought to live up to it. I think we have to tell the public more about what is being done by the food industry, the packers and all as a whole and not as individuals.

As to the future of our business, that is going to depend on how we tell that story. Every time we pick up the paper someone says that the cost of living has gone up, but they don't tell you all the things that make up the cost of living. The only thing the average housewife sees as the cost of living is the food that goes on her table. She doesn't think anything about the food that is in the restaurant where she pays five or six times what she could have served it for at home, because that isn't part of her cost of living. That is the old man's cost of living department. It is much the same way about a hat or cigarettes.

Somewhere in our whole industry we have got to get together and get the government to give the cost of living as it pertains to the food that goes on the table and not cigarettes, liquor, beer, etc. I think when we get that story over, we will help the future of our industry as a whole. Your industry is tied more to the individual stores than it is tied to the restaurant trade although I know that trade is a big part.

I am not trying to say people shouldn't go to the restaurants at times, but I think they go too often. Husbands are told that on Mother's Day they should take mother out of the kitchen. I think that is right, but the idea should be: Let the old man do the work in the kitchen. He can take the food out of a package, throw it in the skillet. I think that will help our industry more than anything else I know.

MODERATOR MUSSER: Mr. Grimes, do you have a word of comment on this?

GRIMES: I would like to say amen to what has been said. I think the work of the AMI and the individual packers in advertising and promotion has been very good. Our thinking is that it is directed a little bit too much to the retailer rather than the consumer. We think we need more ways and means to tell the housewives how to use meat. Tell them how much nutritional value it has.

As far as the future is concerned, I think if you look at it over the long haul, there is going to be less processing of meats at the retail level. I think we are going to consider meats more and more like we do cases of peaches or pineapples, etc., although many years will transpire before that takes place. However, we certainly are headed in that direction.

MODERATOR MUSSER: I think I would be remiss at this point with the prerogative I have here if I didn't mention and emphasize just one thing that was said here on several different occasions. Everything does not depend upon price. I think there are a lot of us in here that ought to take that to heart. Also, I would like to ask again if I understood you correctly, Mr. McNamara, with your mention of frozen meat. Did you say this will account for 90 per cent of sales one of these days?

McNAMARA: I didn't say one of these days soon. I

said in the future it would be 90 per cent, and this is coming faster than a lot of us think. I would say within the next ten years sales will be 90 per cent frozen meats. I think the fish industry came to that in seven years, and processors sold more fish than they ever had sold. I see no reason why meat shouldn't be a comparable situation.

MODERATOR MUSSER: We are just about to run out of time, and we have several other questions. I want to get this one in. Mr. Detrick, I think you are the one that probably should be called on because you are in the stores every day. Are you anticipating the utilization of more refrigerated space in your future markets? You talked about the 7 ft. being equivalent to your right arm.

DETRICK: Yes, in every store that is being built today, large stores throughout the country, small, medium or whatever it might be, thought is given more and more to frosted foods section. In our store we have around 65 ft. of frozen space. That doesn't include ice cream or anything like that, just frozen meats and frozen vegetables. It seems that, regardless of how much planning you do, the second day your new store is opened, you already need more frozen food space. We need more storage space in the back room to keep frozen food, too.

MODERATOR MUSSER: Mr. Grimes, does your crystal ball indicate that same trend?

GRIMES: We have actually set up a department at our headquarters to work with food suppliers and retailers to organize for more space for frozen foods and frozen equipment. We think it is very important. We think that because of the size of our stores we have to organize this very, very well so the 7 ft. that Mr. Detrick talked about can be utilized to the greatest advantage and benefit the entire store. We think we are going to have to have more holding space in the back room.

MODERATOR MUSSER: Mr. McNamara, would you like to comment on that? Does your crystal ball have a reading?

McNAMARA: I didn't know whether it is a reading or just hopeful wishing on our part or trying to be ahead of the parade, but at the present time at least 50 per cent of our meat cases are put in as fresh meat cases and 50 per cent for frozen and smoked meats. That is not including the cases that are used for the frozen food items that are ready for the table. Those are growing by leaps and bounds, but this 50 per cent of the fresh meat cases is being equipped so they can be converted to freezing type cases.

SHAW: I know a lot of cases we are putting in now are the type that can be converted for additional capacity, probably insulated for low temperatures. We think that we are going to move in that direction, but we are not making any plans at the present time.

McNAMARA: In my observation, the fastest growth is in the ready-prepared product for the table in the way of complete dinners, complete packages of anything that can be put on the table quickly by the housewife, such as pizza pies. This growth is just beyond your fondest imagination. I think there will be a continued growth in that direction in the frozen foods.

Public Views Pork Dimly



ANALYST ELMO ROPER finds pork has too few firm friends, although some people like the "taste," and that pork's particular handicap is fat.

THE situation pork finds itself in is a rather curious one. We started this survey about a year ago in field work in effect at the time. You will remember that pork prices were depressed then, so at least we felt we wouldn't be running into lots of criticism of pork because it was high priced.

We did a nationwide survey in towns of 2,500 and over, so that what I am about to give you are the figures and the findings from a cross-section of the urban population of the United States, all geographical areas and both male and female adults. We found that practically everyone eats some pork. In fact, 92 per cent of the people reported that they did eat pork on some occasions. Moreover, most people said that they eat all kinds of pork, except for dry salt pork, on some occasions. Moreover, a large number of people reported that they eat quite a lot of pork. All that information, of course, is not news to you. You know that you sell a lot of pork, and most people eat it. But, that isn't the whole story.

We have very much more detailed and critical findings than that. Before going into that, let me explain that what the people generally have in mind when we say just the word pork, is fresh pork. We found that out in a variety of ways. One was by just asking them about pork and then going back after they told us and asking them what kind of pork they meant; then going back still again and asking them, "Now, would that answer that you gave apply to ham, and would it apply to bacon?"—to make sure they were not talking about bacon or ham, but were talking about pork. We found in almost all instances that they were talking about pork.

One indication, of course, was that they said, "What I just told you was about pork; I don't feel that way about ham or bacon." I don't mean they said it in every instance, but in many instances they wanted to make that exception.

We tried in this questionnaire to arrive at a variety of things. We tried to give people a chance to say in their own words what they thought about pork. Then we asked specific questions, and we also tried giving them words, asking which of the words came closest to their attitude about pork. We asked them what they had done the last time they had four people or a large dinner, and then we asked them what they would do

in another imaginary situation if they were about to entertain for four, eight or so forth. We also had word association tests in which we listed a lot of words and said, "Pick out all the words you think apply to beef; pick out all the words that apply to pork, veal and lamb." We approached this whole thing from a great variety of directions.

But bear in mind that, by and large, I will be talking here about fresh pork, because, while many people did not make any distinction in their critical comments or in their remarks, many people did make that distinction between ham and bacon and pork.

WOMEN MORE CRITICAL: First, for some of the less important things we did find a few significant differences. For example, except on the subject of the taste of pork, which rates very, very high with most people, pork fared a little bit worse with women than it did with men. They were more critical of all the things that I will soon show you as criticisms than were men.

The story on age was a little mixed. There was a little bit more favorable attitude toward pork all the way along the line on the part of young people than on the part of older people which, of course, is an encouraging thing. It isn't encouraging, however, to find that among the college graduates there are just as many misconceptions about pork, just as much belief in the folklore detriment of pork as there is among those who never finished grade school. So we can't look back and say, "Well, at least the more educated people feel differently, and this is only the story of those who are less educated."

As far as consumption is concerned, percentagewise, there is a larger ratio of pork eaters in the Midwest and South than there is on either coast.

Throughout the survey we tried to explore various hypotheses about what it was that made people not like pork well enough to buy very large quantities of it unless it was bought at depressed price. We explored lots of hypotheses. For example, there was a hypothesis that pork was undesired in some instances because it was very hard to prepare and clean up afterwards. It made a messier situation as far as dishes were concerned.

We found little evidence to support that hypothesis. Only 10 per cent of the entire sample picked pork as being especially hard to prepare or especially hard to clean up after, such as spareribs. Actually, more people

said chickens were harder to clean up after than said the same thing about pork.

PORK EVALUATION: Let's come directly into the most important thing that we learned, which is an evaluation of pork. First and on the favorable side is the fact that practically everyone liked the taste of pork, that is, if they named any advantage at all. But maybe we had better stop for a moment on that naming any advantage at all because we asked them in an early questionnaire to give advantages as they saw them towards eating beef, for example.

Seventy-seven per cent of the people could very quickly give us some advantages in eating beef. The biggest single advantage mentioned was that they liked the taste of beef, but there also were other advantages given for beef. When it came to pork, only 44 per cent named any advantages at all, and almost all of them named as the only advantage that they liked the taste of pork. When we got to the really probing questions about what is it about pork that makes you feel this way, makes you low rate it by comparison with lamb or veal or whatever they low rated on, we found a very interesting story. (See chart.)

What we have tried to do in the chart is to show the reservations about pork because we can contribute most by telling you the reservations people have about your product. Only by knowing what the reservations are can we do anything about the problem. We put that bar across the top of the chart to indicate the public's reservations about pork. The two large supporting arms indicate the nature of their reservations. The arm at the right has the overall heading of fat.

Part of the criticism reported is that pork is fattening. We found quite a number of people who felt that pork is not only more fattening than beef or more fattening than lamb, but that it is actually a very fattening meat. Somewhere between 4 and 17 per cent of the people have a very definite feeling that pork is fattening, and still more have a feeling that it is somewhat fattening.

NATION OF WEIGHT WATCHERS: About 43 per cent of women and about one-third of the entire population say they do something to watch their weight. When it comes to that third of the nation as a whole or 43 per cent of the women, 71 per cent say that they do try to avoid fattening foods. More than half of them pick pork as the fattening food they try to avoid, so fattening is a large part of this fat story but it is not all of the story.

Another part of the fat story is just the criticism that pork is fatty. It looks fatty or looks greasy. These reservations are not charted with mathematical precision, but we have paid attention to the actual figures in deciding on the size of those various ingredients. So in that right-hand column which supports a large part of the people's reservations about pork is the word "fat" and that divides into three parts: "It is greasy;" "It is fatty," and "It is fattening." I am using the words people gave us to describe pork.

The left-hand bar has to do with health and with people's reservations about the health-giving qualities of pork. Near the top of that column you will see that we show a considerable number of people who, in

RESERVATIONS ABOUT PORK

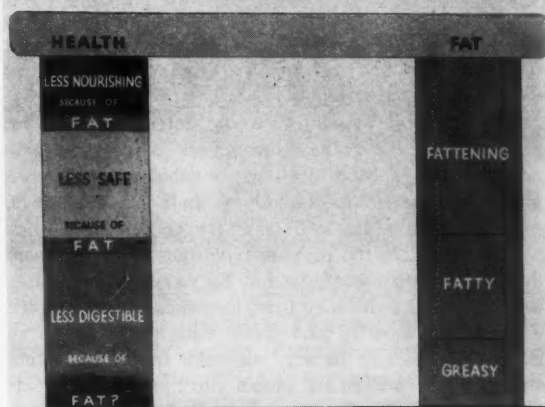


CHART ILLUSTRATES criticisms voiced most often in survey.

answer to the question, "Do you regard any of these meats as less nourishing than the rest?" said, "Yes, I regard pork as less nourishing than the rest."

Then we asked people if they regarded any of these meats as less safe than the rest, and a considerable number said, "Yes, I do regard some as less safe," and when we asked which one, the large group said, "Pork." When we asked people if they regarded some foods as less digestible than others, a considerable number said, "Yes, I do regard some foods as less digestible," and when we asked them which one, they said "Pork."

MOST OFTEN CRITICIZED: We asked some other questions, too, but we are showing only the responses that have a special significance for pork because pork was more singled out than any of the other three meats as having this bad quality or, conversely, as not having this good quality.

When we asked people, "Why do you think pork is less nourishing?" a considerable number said because it has too much fat. When we asked people who thought pork was less safe why they thought so, a considerable number said because it has fat. When we asked why of those who said pork was less digestible, a considerable number said because it has fat.

So, a considerable number of people who had picked health reservations rather than fat reservations to start with ended up by attributing their health reservations about nourishment, safety and digestibility to fat.

In any study it is a matter of judgment, of course, as to what the really important things are. In our opinion, the story on pork is largely told by that chart although probably not entirely so. If we were to tell the entire story, we could put a third and smaller leg supporting this table of reservations about pork.

LOW SOCIAL STATUS: That third and lesser story has to do with several things. We found that pork has a low social status. When it came to the word association test, we found beef associated with athletes, bankers and slim, beautiful women; we found pork associated with farmers, poor people, truck drivers and people with very large families, and all of the connotations that would indicate that pork had a social status inferior to these other meats.

There is this second factor, that people are prosper-

ous. Maybe if they weren't so prosperous, pork wouldn't suffer, even if it is alleged to have a low status. But when people are prosperous they obviously are not going to be as ready to spend their money for something that is regarded of low social status as they would if they were poor.

The other big factor that would enter into this third leg is less value for the money. Pork is regarded by a great many people as offering less value for the money than these other meats. About half of those who said that pork has less value for the money, when we went back in the probing type long interviews, said this was so because of the fat. So you see, even when we introduced a third leg here, low social status coupled with high prosperity and along with the criticism of less value for the money, our old friend or rather enemy comes in—fat. Fat comes into the picture as part of the explanation for less value for the money. There is no question in our minds but what the lean-type hog concept is certainly headed right straight towards answering one of the biggest problems that pork has experienced.

THE PROBLEM IS FAT: I think for the first time since we have been doing research, we really got to the heart of this problem in this probing, delving, motiva-



MISS 1906 and Miss 1956 stand next to scenes which typify their respective periods in packinghouse operations.

tion-type study. That can be summed up as you want, in two words, three words or one word. If you want it summed up in one word, it is fat. In two words, it is fat and few health qualities. Now, that isn't good.

On the encouraging side, however, we did find that some progress had been made since the survey we did four years ago. Thirty-two per cent of the people in 1953 singled out pork as being less nutritious than most of the meats; that figure dropped to 23 per cent this year. In 1953, 64 per cent of the people said pork was less digestible than other meats, compared to 52 per cent today in 1956. There is no question but what progress is being made in the story of pork's nutrition and digestibility, although we are by no means over the hill yet.

It seems to us that this story clearly lights a rather special liability of pork that is beyond and to one side of the limits that we have found in the past about meat generally. I hope you will recall that many of those reservations that we found about meat when we did



LARRY ELDRED of AMI public relations staff was kept busy giving running account of convention to Betty Stevens, associate editor of THE NATIONAL PROVISIONER, and others from press.

that first study back in 1939, have pretty substantially disappeared in the surveys that we have done since the efforts of the American Meat Institute and the advertising campaign started back then. These remain as special drawbacks. Working for you, of course, the new lean cuts are certainly hitting right at the heart of the problem. The new lean-type hog is hitting right to the heart of the problem.

However, the general type of promotion that you do, which is extremely good for meat as a whole, is almost sure by necessity to have to miss the kind of emphasis that in our opinion needs to be made on these twin problems of health and fat.

The lean-type hog, leaner cuts of meat, give people the picture of a fine, athletic hog, geared up to do the 100-yd. stretch in very short time, instead of those huge, fat hogs they have always seen on the front pages of papers, as having won the prize at the state fair. You need more promotion of the lean-type hog and the new cuts and more emphasis to dispel these misconceptions. You see very well that all those things aren't true—pork isn't that much less nutritious as so many people think it is; it isn't that much less safe; it isn't that much less digestible. There should be increased effort to dispel the folklore, but remembering always that in all three of these columns which comprise the whole foundation really for reservations about pork, one word appears and that word is fat.



LET'S PLAY SAFE is the motto of Floyd Logan and Al Spink, both of Kingan Inc., Indianapolis; R. A. Harschnek, Swift & Company, Chicago, and Henry Tefft, American Meat Institute, as they stand ready to sell safety to all conventioners who stop at booth.



Kraybill Wins Award

DODGE & OLCOTT achievement award to the late Dr. Henry R. Kraybill is accepted by Dr. L. R. Dugan of the American Meat Institute Foundation, from H. Harold Meyer, chairman of the D. & O. award committee, following Meyer's presentation address.



DURING the second 50 years of progress in meat packing—led by the American Meat Institute—I hope that the Dodge & Olcott company will continue to award \$1,000 each year to the individual who makes the most significant and worthwhile contribution to the meat industry.

The 1956 D&O achievement award committee faced a task that was both happy and difficult. It was happy in that we received a number of meritorious nominations. It was difficult in that we had to weigh, by the criteria of broad applicability, industry impact and demonstrable usefulness through wide acceptance, the value of worthwhile entries in very different segments of industry activity. The award committee recognizes that some of the nominations were made for developments which possess great potential value for the industry, and sincerely hopes that they will be re-submitted in future years, for they lack only the attributes of more general acceptance and proved economic feasibility in order to qualify for primary consideration.

I feel that it is especially significant that several of the nominations were for work directed toward improving the status of edible animal fats—primarily lard.

One of lard's weaknesses was that Old Man Oxygen always stood between the packer and the lard consumer.

Degradation by oxidation is an old problem—rust is one example—and practical operating men and chemists have been on its trail for many years.

This is not the place for a review of the literature in the extensive field of antioxidant research. Beginning with Mouren and Dufraise in 1922, many scientists have worked on the problem. The first of the anti-oxygenic materials to be used commercially was lecithin.

Even before Musher made available oat and cereal flour antioxidants in 1935, Dr. R. C. Newton of Swift & Company and D. P. Grettie had demonstrated that gum guaiac had good antioxidant properties.

In the years following the Swift discovery other antioxidants were developed for the meat industry—NDGA by the Hormel Foundation, propyl gallate, thiodipropionic acid and other substances and synergistic combinations of antioxygenic materials.

Not one of these substances or combinations, however, possessed to the optimum degree the qualities which would insure shelf-life stability for the lard and carry through stability for the products in which it was used.

Credit for the development of such an antioxidant—and he has been chosen as the winner of the Dodge & Olcott award for 1956—belongs to Dr. Henry R. Kraybill, vice president and director of research and educa-

tion of the American Meat Institute Foundation. Dr. Kraybill was the judges' unanimous choice for the award; the result of a decision made some weeks ago.

What should have been a happy ceremony of recognition for an outstanding scientist and a truly fine man, has been saddened by the untimely death of Dr. Kraybill on Sunday. I am glad to report, however, that Dodge & Olcott, knowing that it was improbable that Dr. Kraybill would be able to be present today, notified him some days ago that he was the winner of the award. At that time Dr. Kraybill was conscious of the honor he had won and expressed his gratification.

Not only is Dr. Kraybill's antioxidant used in more than half of the federally inspected lard produced in the United States today, but his work, coupled with other research at the American Meat Institute Foundation, has been the key which has opened a whole new market for fats as valuable constituents of animal feeds.

Specifically, the work carried out under the direction of Dr. Kraybill and his associates, Dr. L. R. Dugan and Dr. B. W. Beadle, on the use of butylated hydroxyanisole and butylated hydroxytoluene has permitted protection of animal fats and foods made from fats (potato chips, crackers, pastry items, etc.) from oxidative rancidity. With the use of these antioxidants, lard may now be displayed, merchandised and stored in the home without refrigeration.

The 1956 Dodge & Olcott award is only one of the honors which came to this modest, unassuming, good-humored and unpedantic leader in scientific research.

Only a few months ago Purdue University conferred an honorary degree of Doctor of Science on Dr. Kraybill for outstanding scientific, educational and administrative achievements. He was a former president of the Association of Official Agricultural Chemists, the American Association of Feed Control Officials and the American Society of Plant Physiologists. He was a former chairman of the division of agricultural and food chemistry, American Chemical Society.

In addition to fat antioxidants, Dr. Kraybill conducted and directed research in meat processing, oils and fats, phosphatides, sterols and the effect of processing on the nutritive value of meat.

I deeply regret that I cannot present this award to Dr. Kraybill in person. He truly deserved it, and it would have added immeasurably to the happiness of the Dodge & Olcott company, my own, and that of the rest of the achievement award judges had he been present.

However, before Dr. Kraybill's death he designated Dr. L. R. Dugan, his associate in the antioxidant research, to receive the award in his place.

"The Fat's in the Fire"



DR. STARE



DR. POLLACK



DR. STEFANSSON

DR. HERBERT POLLACK of the American Heart Association warns that there may be some connection between some fats and heart disease. RESEARCHER Dr. Frederick Stare of Harvard University says too little is known to accuse fat as cause of heart trouble, but advises to keep fat off yourself. EXPLORER VILHJALMUR STEFANSSON advises "eat fat first" to cut total caloric intake.

Stefansson Speaks

SOMETIMES I watch the Quiz Kids on television. As you know, each of these cherubic encyclopedias is introduced by announcing his, or her, name and age. I take my cue from them today. My name is Vilhjalmur Stefansson and I am 77 years old. This should be almost as interesting to you as it is to me, because I have lived on a high-fat diet for a considerable part of my lifetime. Not only am I an anthropologist by profession, but I am almost old enough to be considered an anthropologic specimen.

My convictions, after three score and seventeen years, are that a diet liberal in animal-fats has been vital to my health and well-being in many respects.

It has helped me to maintain a healthy weight-level.

It has been good for my complexion and for my general skintone.

It has helped to keep me cool in the summer and warm in the winter.

It has enabled me to resist mental and physical weariness.

It has obviously cured me of rheumatism and lame joints so it may be an effective treatment for some forms of arthritis.

And, according to the analysis made at the Harvard School of Public Health, the cholesterol count in the specimens of my blood they examined is within normal limits.

All of these blessings, derived from a simple diet in which I obtain 80 per cent of my calories from fat, are substantiated by my research as an anthropologist. I have reported on this in many books during my 50 years as an Arctic explorer and observer. The latest, a modernization of a book first published in 1946, is being reissued this week under the title of "The Fat of The Land."

So I chose to report to you this noon on the subject of "Living on the Fat of the Land." This is much more than a catch-phrase concocted from a Biblical expression. The fat of the land . . . not "bread" mind you . . . has been the real staff-of-life of the human race for more than a million years . . . perhaps for 3,000,-

000 years. This, too, I wish to discuss in some detail with you.

But first let me make two points. My fondness for animal fat is in decided contrast to the prejudices of those housewives on whom Roper reported this morning. But then, I feel that their prejudices may be based on a lack of information. They haven't been told the great human news — facts that the anthropologists have discovered about man-and-meat. And I think they are points you may wish to emphasize in the public relations work of your firms, as well as in your research programs.

FOOD IS MEAT: The word "meat" means "fat and lean." To speak of "fat meat" or "lean meat" is a redundancy. Meat, as a word, comes down to us from Northern European words that mean "food"—any kind of food. Thus the Danish word for "food" today is "mad." The Norwegian word for "food" is "mat." The Old Norse word for "food," any kind of food, was "matur." Here is one bit of anthropologic evidence of the importance of meat in the diet of ancient man. Meat came first in their consideration. The word for "meat" was also the word for "food."

Then let us look at the earliest form of that nursery rhyme about Jack Spratt. In 1659, just 297 years ago, it was published this way:

Archdeacon Pratt would eat no fat

His wife would eat no lean.

Twixt Archdeacon Pratt and Joan, his wife

The meat was eat up clean.

There's the point. Both the fat and the lean were and are meat. Meat was and is intended to have both fat and lean. This can be an important point in future public relations planning of the meat industry, particularly as your scientists learn more and more about the dietary values of animal fats.

The second suggestion I wish to make to you is that you and your scientists do more research in the field of anthropology. This science includes the study of ancient man and can explain those hereditary influences that strongly contribute to our physical and mental health and help to shape our everyday habits. One of the largest gaps in current training for the medical profes-

sion is an underemphasis, sometimes amounting to ignorance, of anthropology. You and I are because our ancestors were. A great deal about us—our physique, our thought processes, our habits—were literally predestined hundreds, thousands, and perhaps millions of years ago.

BOY AND BUTTER: Give a small boy a slice of bread thickly spread with butter. He will eat the butter first. This is an instinct. Hundreds of thousands of years ago his ancestors obtained much of their health and energy by eating fat. This explains why butter and gooey hamburgers and bacon taste better than bread to small boys. This is anthropology. They are acting on instinct, which means inbred knowledge.

In the same vein, let us examine the old saw that says that meat eaters are short-lived. There have never been any studies to determine how long the true meat-eaters do live. The primitive peoples, ancient or modern, who lived on an all-meat diet kept no records of ages. We don't know, for example, the average lifespan of the Eskimos when they lived on meat alone. We do know they often died in their thirties and forties *after* the white man introduced them to carbohydrates.

I did have opportunity to observe one aged woman near Cape Bathurst in the western Canadian Arctic. Correlating her childhood with the dates of expeditions she saw as a girl, I judged she was born in 1838. She lived on an all-meat diet until 1890 when whaling ships first delivered carbohydrate foods to her people. She died in 1914, aged about 76 years. Who can say how long she would have lived on an all-meat diet?

Anthropologic research by your organizations, in cooperation with the medical profession, can do much to ascertain the truth about meat, the fat and the lean of it, in man's diet. In time, you should be able to explain—even to a devout vegetarian—why the human being isn't rigged for a vegetable diet. All living creatures that exist on a vegetable diet have a long digestive tract. They need it. Usually they also have storage places where this vegetable material ferments and pre-digests.

Meat-eating creatures have short, rugged digestive tracts. Man has a short digestive tract. Man doesn't have a second stomach in which to pre-digest his carbohydrates, cellulose, and things of that sort. Consequently, when we indulge heavily in starches and sugars, we generate excessive gases which, alas, have not only supplied us with some of the most pungent words in our languages but are among the principal contributors to the pharmaceutical industry. Gaseous indigestion is not a meat ailment. It is a carbohydrate ailment created by a digestive tract anthropologically developed for the consumption of meat rather than starch.

To repeat, then, I urge you to consider the future value to the meat industry of two matters:

1. Use of the word "meat" in its true sense—a blend of fat and lean.
2. Long research in medical anthropology to the end of determining the hereditary influences of meat on man and the truth about an all-meat diet. For if all-meat is good for a man, considerable meat in a mixed diet meal is unlikely to hurt him.

MEAT EXPERIMENT: Both of these projects are timely, particularly in regard to fat. Thirty years ago, meat was under severe fire by the diet-faddists and by many eminent physicians. In 1929, under sponsorship of the

American Meat Institute, Karsten Andersen and I lived for more than a year in New York City on a meat-and-water diet.

We were under a sort of remote control by a group of "Who's Who" scientists, and under the immediate control of younger up-and-coming scientists, some of whom later became famous. We walked out of the Bellevue Hospital at the end of the experiment in far better physical condition than we were in when we entered. That experiment was supposed to disprove, I am told, the vegetarians' scuttlebutt that meat is bad for humans.

Yet here we are in 1956 confronted by the same sort of scuttlebutt about the fat parts of meat. Today some of our most eminent medical men think that fat in the human diet is dangerous. They admit they do not know that it is. They urge broad research on the subject. But their doubts, dramatized by President Eisenhower's heart attack, have frightened many Americans. So, I understand, the fat surplus in the meat industry is an increasingly serious one.

My observations, and personal experience, are contrary to those of the doubting physicians. I believe that the human being can benefit, as I have, by consuming enough fat to get 80 per cent of his calories from it. On this diet, he can more effectively resist infections, can reduce his or her weight to a healthy slimmness and maintain it, and then enjoy all the benefits I cited in the opening of this chat.

Rather than a fat surplus in the meat industry there might be a fat shortage if the world ate this health-giving diet. I make that statement baldly and without quibbling, for it is a good bet that research will eventually substantiate it. A great deal of recent research points in that direction.

A few months ago the biological sections chief of one of the world's largest processors of fats wrote me:

"There are convincing laboratory and clinical data that fat in the diet does not simply supply calories to the diet but also has the following important functions:

"1. It is essential for optimum growth, reproduction and lactation.

"2. Fat containing the essential fatty acid, linoleic acid, is important for maintenance of good skin health.

"3. High fat in the diet is important for optimum work performance and physical endurance.

"4. Fat in the diet has a protein sparing action.

"5. Fat is a vehicle for important vitamins like Vitamin A, D, E, and K. It permits better utilization of these vitamins in the body."

Contemporary science is substantiating, too, a dietary practice that residents of our South have practiced for hundreds of years, namely eating plenty of fat, which they must have known "instinctively" would keep them cool during the summertime. For now the scientists are discovering that high fat tends to keep you cool. In a letter dated July 13, 1956, Dr. Robert S. Harris, professor of biochemistry of nutrition at Massachusetts Institute of Technology wrote me:

"Less energy is wasted as the fat content of the diet is increased. As early as 1944 technical articles suggested that it is not necessary to diminish the protein content of the diet during hot weather in order to ensure a low heat increment. Rather one need only substitute fat for some of the carbohydrate."

Other favorable evidence for fat comes month after

month from college laboratories. During the past 10 weeks, exciting new tests have been reported in American and British medical journals.

MAN AND MEAT: Again, we have favorable evidence for meat and its fat in an article by the eminent physician and author, Dr. Walter C. Alvarez, published in the Chicago *Sun-Times* of May 10 this year. Writing under the headline of "Man was meant to be a meat-eater" Dr. Alvarez said:

"Some of the healthiest people in the world are meat eaters. The primitive Eskimos had the best teeth in the world. They used to live on meat. . . . Years ago a dentist named Weston A. Price went around the world looking for people with good and poor teeth, and trying to find out what foods make good teeth. His book, entitled 'Nutrition and Physical Degeneration' is fascinating. But his approach to the problem was so simple and so logical that no one seemed to read the book. Most interesting was the fact, many times noted by Price, that when savages with perfect teeth went to work on a plantation and ate the white man's food, they soon had a mouthful of cavities.

"The carnivore," Dr. Alvarez points out later in that same article, "has a short, simple strong-walled gut. The herbivore has a highly complicated tract with a very long, thin-walled bowel. Man's intestine is like that of a dog. It is short and simple. Certainly, it would seem that the Great Designer never expected man to try to make an herbivore of himself. I have marveled that man has gotten by as comfortably as he has with a largely herbivorous diet. . . . When a person is ill, I seldom can see any sense in forbidding him meat. Meat is usually the easiest food there is to digest."

And always remember that by "meat" we mean the fat and the lean, each taken at each meal as dictated by our own taste.

Now, about this matter of fat as a rheumatism cure and possibly an arthritis cure, I shall pass over the very favorable reports that have come from the Endocrine Society and elsewhere. Instead, I shall cross my legs—and I do it very comfortably, you see—then report to you on my own experience.

Some three years ago, I noticed what I thought was a return of the effect of a left leg knee injury suffered a few years before. I began to take physical therapy treatments from one of the fine doctors of our Hitchcock Clinic in Hanover. The treatments seemed to be doing good; but I noticed a gradual stiffening of a number of other joints. Both of my hips and both of my shoulder joints were so affected that if I slept on either side for more than two or three hours the pain woke me and I had to turn over. My knees were so tender, I could not bear to kneel, even on a thick carpet.

At this stage, President Eisenhower's heart difficulties in Colorado filled the papers. With it came a new clamor that Americans must stop eating too much fat (40 per cent of calories according to some writers). We are, these would-be prophets shrilled, the heaviest fat-eaters in the world and we also are plagued with the highest rate of heart ailments.

Quite aside from their ignorance of human history—anthropology, if you please—these reports were to me dietary nonsense. For I had already lived well a considerable part of my 77 years on a diet that secured 80 per cent and more of its calories from fat. However, I

had lived before 1906 on only moderately high fat, and since 1930, I had slipped under the influence of city restaurants and hearty home-baking. In 1955 I was eating and gulping just about anything that was placed before me.

HELPED BY DIET: So, from countersuggestability if you like, I decided to go back to my old favorite Arctic diet . . . about 20 per cent of calories from lean meat (say 30 oz. per day of the lean cuts) and about 80 per cent from fat (8 to 10 oz. of the fat you get with a sirloin—or used to get before they started trimming them). I thought of this merely as a good, wholesome and pleasant regimen. It never crossed my mind that I would be trying a new form of treatment for my sore joints.

We buy mutton by the whole sheep, beef by the quarter, pork by the side, and keep them in the deep freeze. However, if we bought from a Hanover butcher, the diet would still be cheap. The anti-fat propaganda in Hanover has been so successful that there is little demand for butchershop fats; buy the lean 20 per cent of your needed calories and they give you the fat 80 per cent free.

Because past experience had shown me the virtues of this diet, I watched for an improvement in my general health. It came. I was overweight when I started this diet. On it, with very high caloric meals, I lost about a pound a week. Shortly before this time my good friend and yours, Colonel Edward N. Wentworth, had been put by his doctor on a meat diet high in fat. He wrote that he noted the laxative effect of the fat. I observed this, too, and decided I no longer needed the metamucil my doctor prescribed. So I quit metamucil and have had no need since for it or any substitute.

But I was not watching for any improvement in those stiff, rheumatic joints. I had come to accept them as a normal pattern after 75. Then, one day, I noticed I was folding my legs while sitting in an automobile, instead of holding them out straight and stiff. And I was walking upstairs easily, instead of scrabbling up like an overgrown crab. So I tried kneeling on a carpet and felt no discomfort. I went off to the front hall and knelt on the bare boards. My knees were no longer tender. I went relaxedly to sleep that night on my left side and (as far as I know) stayed in that position all night, without any pain in arm or shoulder.

That was six months ago, I haven't had any joint stiffness or aches since then. Obviously, I am still on the high-fat diet. I feel, and friends say I act, five years younger than I did at 75.

So, again, I urge you to re-examine the health-giving potentials of animal fats and painstakingly to research the anthropology of meat and man. Since man is considered to have lived chiefly by hunting for more than a million years, before he invented agriculture, the related theories, now commonly held, of natural selection and of inherited immunity had plenty of time to work, even if our pre-human ancestors were vegetarian. So we are all descendants of ancestors from whom any individuals not capable of health on a high-meat diet have been eliminated.

True, it is said in rebuttal that our immediate ancestors have been high-carbohydrate eaters. But have they been on carbohydrates long enough to acquire full immunity? Certainly not very long, compared to the mil-

lion years (or more) from the first hunters to the first farmers.

MEAT-EATERS ALL: Agriculture is 10,000 and certainly not more than 15,000 years old in the Near East and in some sections of China and India. So even descendants of these oldest centers of crop-farming have had only 1 per cent as much time to adjust from all-meat to high-starch diets as evolving man had to adjust from his pre-human vegetarian ancestors to an all-meat diet. And this concedes that man's ancestors may have been herbivori; which is not, by any means, proved.

But these are extremes. Let us look at the facts of anthropology as they immediately concern us in the USA. If you are of Greek or Roman ancestry, you have adjusted to a carbohydrate diet only since Homeric times—not more than 5,000 years. Caesar saw crop-farming in its small beginnings when he reached England less than 2,000 years ago. Then only the Belgae immigrants tilled fields. The ancient Briton lived on a meat-and-milk diet.

If you are a Scot, you have had even less time for acquiring carbohydrate immunity, not over 1,500 years. The Scandinavians—perhaps not the Danes—but certainly the Icelanders, most Norwegians and most Swedes, are still newer at the new foods. The Icelandic brand of Scandinavian is worst off among them, for starch and toothaches there date back only to about 1800 A.D., a century and a half. The Eskimos are worst off of all. I myself saw hundreds of them whose only berry eating was during childhood and who ate roots only during famine.

Hence, if we take our natural selection and our immunity doctrines seriously, it is a safe bet that human health is better the higher the meat percentage of our diet. Let us, therefore, continue to research for the truth about meat and report to all America and the world. The truth is much more favorable to the meat industry than most people now believe.

I have, you have doubtless noted, stayed away from the current medical hassle about surplus cholesterol deposits allegedly made in human arteries by saturated fatty acids. If this is the primary cause of heart disease, and here again we have an allegation rather than a proved fact, there seems a very simple solution.

A mild intake of an unsaturated fatty acid each day, according to some of the latest theory, counteracts the alleged tendencies of the saturated fats. If this is so, and I only report what I read and hear in this field of involved chemistry, then the solution is a simple problem of engineering, plus some educational work by your legislators to acquaint the Pure Foods and Drugs people with the facts of human welfare.

But the cholesterol threats of fat—if they are valid threats—do not offset by a long way the manifold virtues of a high-fat human diet.

In closing, I wish to make one more stringent recommendation; I address this to the home economist and the dietitian. I plead with you, my dears, to stop stacking the cards against fat. You have done a beautiful job for the carbohydrate industries by designing the meal to serve a maximum of carbohydrates before we get to the meat. So if carbohydrate is the root of evil for many human health problems, you have a burden on your conscience.

You have fixed the silver and arranged the plates and contrived the servings to fill us first with a carbohydrate concoction of slivered carrots, rosebud radishes, crockly celery, gooey breads, lettuce and halfripe tomatoes doused in sugar-water plus mounds of potatoes and broccoli. Only then do we discover, on the far side of the plate and hidden under a broccoli branch or a parsley forest, a lonely little pork chop or a sliver of lamb or beef with most of its fat trimmed off. Then you hurry us through even this to get at the ecstasy of your super-duper rainbow-hued high-carbohydrate desert . . . your crowning jewel of sugar and starch.

EAT FAT FIRST: Perhaps, then, consumer-education about fat should start with the home economist and nutritionists. Those of us who have found health and well-being in a high-fat diet have stumbled on a simple secret . . . known to our primitive ancestors but forgotten until recently by our nutritionists. We like to think of this rediscovery as a potent contribution to human-engineering.

We . . . eat . . . our . . . fat . . . as . . . the . . . very . . . first . . . course . . . of . . . the . . . meal. That's all there is to it. Instead of stuffing ourselves with gallons of carbohydrates, we go right to it with the butter, the bacon and the oils. If you've got to put them on something, go ahead. Put them on bread or salads. But like the instinctive small boy with the bread and butter, I trim the fat off the edges of my steak and eat as much of it as I feel like. Then I go at the lean, which tastes mighty good to me, if not quite as good as my first bites of fat.

Eating the fat satiates me quickly. I have had it dietetically. I don't get up from the table still hungry, as you do from a carbohydrate razzle-dazzle. And I stay unhungry to the next mealtime. I don't nibble and nip at 10 a.m. and 3 or 4 p.m. and again before bedtime. Consequently, because of the satiating powers of fat, I maintain my weight at proper levels, and am never hungry doing it.

I hope the ladies who run the home economics courses and write the cookbooks and pose prettily in the television kitchens, will consider this point—and re-set their tables accordingly.

Hand in hand with them, and that's a charming thought, we can go up the highroad to a better day for mankind with a high-fat diet. Then we shall realize together the true kindness of that pharaoh who said to Joseph: "I shall give you the good of the land of Egypt, and you shall live on the fat of the land."

Remarks by Dr. Pollack

THERE are three general ways of approaching this problem of the relation of dietary factors in any human disease. That is, by the clinical studies, or the studies of the individual patient, by the laboratory and experimental studies, by the use of experimental animals and by the so-called epidemiological survey.

The epidemiological survey technique has been gaining in popularity in recent years. The epidemiological approach is the study of the large population groups rather than individuals. The planning of this type of large population group studies, involves, however, the

integration of a great many disciplines, not only physicians, biochemists, anthropologists and geneticists, but statisticians and so forth.

To get a team of this type together, is of course, rather difficult and the basic problem in trying to assess atherosclerosis on an epidemiologic basis, is that we are studying a situation, the diagnosis of which is very questionable. We are asking the epidemiologist in the face of the medical inability to recognize atherosclerosis in its early possibly reversible phases, to study the incidence when we can't tell them just what the incidence is. This admittedly is a very difficult problem.

Then, the starting point of this epidemiological approach is to determine as accurately as possible, the incidence of atherosclerosis in the groups under study.

Screening techniques which are in use are, of course, only crude nets being thrown out to grab whatever fish they can get and obviously do not bring out the truthful number of the incidence of this situation.

The clinical diagnosis of atherosclerosis or atherosclerotic heart disease is used as an index. It is one index of the presence of atherosclerosis. Possibly in one of its later phases, the accuracy of this index then depends entirely on the accuracy of the diagnosis. The fact that there is admittedly a 25 per cent error or more in the clinical diagnosis of atherosclerosis heart disease is proved by post-mortem studies in the large hospitals. The clinical diagnosis of coronary heart disease dates actually from the early part of this century.

The description of the so-called coronary attack is of fairly recent origin and the widespread use of the electrocardiograph as confirmatory evidence is of even more recent general introduction.

INCREASE REAL? There is no question now of the remarkable increase in the reported number of deaths from atherosclerotic heart disease or aschismic heart disease as some people call it. However, whether this is real or apparent still remains to be seen. Some of the actuarial statisticians from the large insurance companies maintain this is not a true incidence of the increase of atherosclerotic heart disease.

They point out, from ages 65 to 74, there has been an improvement in the mortality of 37 per cent of white males and 47 per cent of white females and they attempt to maintain the statement that this apparent increase in reported atherosclerotic heart disease is simply an alertness on the part of the physicians to the diagnosis because there has been an overall decrease in the total number of deaths from all types of heart disease associated with this increase in the specific type of heart disease.

Some of our fellow workers have gone abroad to study the population groups who apparently have different eating habits than we in these United States.

For instance in the 1950 vital statistics table, the difference between the reported incidence of the death rate from degenerative heart disease at ages of 50 to 54, between Italy and the United States was very great. However, if one studies the Italian tables a little bit more carefully, one sees that there is a larger incidence of cerebralvascular lesions among the Italians than the American and cerebralvascular lesion is a type of atherosclerosis disease in itself.

The rates in the Italian statistics for the so-called ill-defined causes of death are much higher among the Italian people than they are among the Americans. This raises the question as to whether the incidences in diagnosis and certification of causes of death in the two countries are comparable. I question it. Even within these United States there is a tremendous variation in the reported death rates for cardiovascular disease in the various states.

STATES VARY: Just compare some death rates: for instance, Alabama runs 522, and one of its neighboring states, Arkansas runs 395. The District of Columbia runs a rate of 737, but Maryland is 667 and Virginia is 549. There is over 100 per cent variation in the reported death rates from cardiovascular renal diseases within the states of these United States, even in neighboring states where apparently the climate and eating habits and other environmental factors are essentially the same.

In some of the studies made in foreign countries, the methods of dietary survey are not in accordance with the types of dietary surveys that we are likely to see. For instance, in one of the studies abroad, a reference is made to the specific dietary intake of one group of people who had a large incidence of coronary vascular disease and then their diet intake on an individual basis is compared with the per capita intake of large groups of populations in these United States.

But, you cannot compare individual dietary surveys with per capita average intakes taken from a broad production figure. They just aren't comparable any more than oranges and apples are comparable even though they are both fruit.

There are, of course, a great many other factors besides dietary ones which can be put under suspicion, but today we are concerned essentially with the discussion as to the dietary effect. The current popular concern of associating diet with prevalence and incidence of atherosclerosis—if you will recall, a few years ago, the rule of dietary cholesterol was considered very important.

CHOLESTEROL: Today, dietary cholesterol is minimized and emphasis is placed more on hydrogenated fats. Low fat diets are frequently low in animal proteins and I am sure Dr. Stare will discuss some of his work with you, which is classical in this field of experimental approach to atherosclerosis.

I think we can draw certain conclusions, or rather we can draw certain tentative conclusions. Prudent people must recognize that diet may have something to do with atherosclerosis, that fat and total calories—and when you talk about total calories, you must bring in exercise, because calories are related to exercise—fat and total calories may be important factors.

It is quite possible that one type of fat is the provocative agent rather than the total amount of fat, or it may be that there is in the current diet, a disproportion between the various types of fats and that the increased use of one type of fat may give a relative insufficiency of another type of fat. These are all suppositions, but I think one must consider them seriously.

Most of us, I think, should eat a little bit less and lose a little weight. This usually means decreasing the

fat intake to some extent. The key to good health is good nutrition achieved by a diet which adjusts caloric intake to achieve optimum weight. Such a diet should have adequate protein of high biological value, a good selection of vegetables and fruits as well as other animal food products.

Now, about all of this controversy going on, and before I close, I would like to read to you something that struck my fancy that appeared in the British medical journal, "The Lancet," in the April or May issue. I have forgotten. The writer goes on to say:

"Once upon a time there was a very poor country, where nobody had enough to eat and the average expectation of life was 24 years. There was also a very rich country, where everybody had plenty to eat and the average expectation of life was 64 years. In the very rich country people used to save up milk and butter and cream and eggs and send them to the very poor country, where they were distributed, especially to the children, who would otherwise have had none.

"In this way the expectation of life in the very poor country was raised from 24 to 27 years. Meanwhile the expectation of life in the very rich country was rising too, and went up from 64 to 67 years, and everyone who didn't die of cancer of the lung from smoking too many cigarettes died of coronary thrombosis.

"Then someone discovered that coronary thrombosis was due to eating and drinking milk and butter and cream and eggs. So people stopped eating and drinking milk and butter and cream and eggs in the very rich country, and sent it all to the very poor country, so that the expectation of life in the very poor country might be raised high enough for them to start dying of coronary thrombosis so that they, too, could stop eating and drinking milk and butter and cream and eggs."

Views of Dr. Stare

THE FAT is certainly in the fire today in relation to two great health problems of Americans.

We are not talking about the health problems of India or Indonesia or some place like that, but the health problems of Americans. One of these two great health problems is that of atherosclerosis which, to some extent, is a high-sounding name for the commonest type of hardening of the arteries. One form is cerebral hemorrhage and the other is what is commonly called a coronary or coronary infarction, more popularly called heart disease. The second great problem is obesity.

Because my time is short I will simply state four specific comments which suggest the hazards of fat in our diet and then I will criticize my own comments.

First, and this is something that I am sure you have frequently read in the papers, is the statement that fat consumption in the United States has increased appreciably in the last 50 years. I don't have to belabor the point that the incidence of coronary heart disease also has increased appreciably.

Now, has fat consumption in the United States increased? I can't make anything out of the mass of

statistics on the fats available for consumption. So, I shall just ignore them, but I do want to tell you a few little things that I can understand.

We have looked back carefully through the nutritional and medical literature, trying to find surveys that were done on people a long time ago and how much fat they consumed. We found three surveys reported between 1895 and 1900, which as far as we could tell, represented good, reliable work.

These three surveys show that at this time, almost 60 years ago, the subjects averaged 35 to 40 per cent of their calories from fat. In 1953, our department carried out a number of surveys and the individuals we studied were, on the average, obtaining between 35 and 40 per cent of their calories from fat.

So, on the basis of these data, which I will admit are very limited, there has not been much of an increase, if any, in the consumption of fat.

Another point along this same line is that we are supposed to be consuming far more hydrogenated fats. Well, there isn't any question about that. It is true, because hydrogenation was only discovered 35 or 40 years ago. Why is hydrogenation bad, if it is bad?

Hydrogenation is said to destroy the unsaturated fatty acids. Actually, the process of hydrogenation does not destroy all of the unsaturated fatty acids, but it reduces their intake by approximately half. The fact we are obtaining a great deal of our fat in hydrogenated form would indicate we are getting some unsaturated fats in our diets, more than before the process of hydrogenation.

Also, along that same line, our best known sources of unsaturated fatty oils or acids are peanut oil, cottonseed oil and corn oil, and the consumption of these has increased in the last 50 years.

Then you come to the question: Have our cooking methods changed in the last 50 years? Are we broiling far more food than we used to fry? I would think yes, but I have no idea how important this is.

CONSUMPTION: The first question I ask myself is about national consumption of fats in the United States, and I don't believe, so far as I know, that there are any good data which indicate that fat consumption has appreciably increased.

The second point that you read much about in the papers is something to which Dr. Pollack referred in his talk. This is that studies done in various parts of the world on peoples eating low-fat diets, supposedly show a much lower incidence of coronary heart disease. There have been many such studies made—South Africa, Nigeria, Guatemala, southern Italy, Sardinia and Japan.

What are the criticisms of this type of work? Dr. Pollack gave you a number of them. One is that the health statistics are questionable. The health statistics of the city of Boston or the city of Chicago are bad enough. You can imagine what they are in other parts of the world where their facilities are far below ours.

The second weakness lies in the difficulty in determining whether a person has coronary heart disease or atherosclerosis. Dr. Pollack referred to that. It is very difficult to take case histories in this country when you can speak the same language and when you have

a fair amount of time to do it. It is triply difficult in trying to do this through an interpreter and with not too much time on your hands.

There is very little autopsying done in connection with most of these surveys in other parts of the world and, unfortunately from the viewpoint of research activities, you just do not know whether I am filled with atherosclerosis unless I have either a cerebral hemorrhage or a coronary, unless you are able to do an autopsy on me.

It is a very difficult job to disentangle food intake, body weight and exercise, and somehow these factors are all tied up in this picture of coronary heart disease.

Some very interesting figures have been coming out of England within the last year from a British scientist by the name of Dr. Morris. He has been examining some of the statistical data on fat rationing during the war and the incidence of coronary heart disease.

BRITISH EXPERIENCE: It is reasonably well known that in times of famine or war, diseases such as diabetes and most types of heart trouble usually decrease. Fat consumption usually decreases during times of war.

Dr. Morris has examined the data carefully and recently pointed out some interesting facts. He pointed out, and shows quite carefully, that coronary heart disease started decreasing in Great Britain in 1939. Fat rationing did not go into effect in the British Isles until 1940. He further points out that the incidence of coronary heart disease started increasing again in 1943, but that fat rationing continued and actually was the most severe in 1947.

Another point I should like to mention about the dietary studies in different parts of the world—some of which we have done ourselves—is this: While it is true that the diets in many parts of the world are far lower in fat intake than ours, those diets differ in 16 dozen other ways as well.

So-called primitive diets of the type that we have studied in Nigeria and in Guatamala can be extremely low in fat. Primitive diets tend to be very high in fiber and in starch. They are also low in sucrose and the mineral content of such diets differs appreciably from typical American diets. In other words, there are many dietary differences other than fats.

The third point I should like to mention very briefly is that a number of experimental studies have been done on man within the last two or three years; many of them are still going on. I refer to studies coming from half a dozen parts of this country, and one or two from South Africa, which indicate that in the few that have a diet in which 50 to 60 per cent of the calories come from an unsaturated fat such as corn oil, there is a depression in the blood cholesterol, and blood cholesterol seems to bear some relationship to the development of the disease we are talking about.

The criticisms of these studies would be as follows: First of all, the periods of observation are very short—some of them are as short as five days. We can't tell very much about the effect of diet on blood constituents—blood fat and blood cholesterol—when you measure such a short period of time.

Most of these studies have been done with what we speak of as formula diets and do not involve feeding

the people 50 per cent of their diet from meat and potatoes and 50 per cent from corn oil. These formula diets are made up of skim milk powder, sugar, crystalline vitamins and minerals. These are the kind of diets we use in experimental nutritional studies. The studies are interesting but I think they are pretty unrealistic insofar as their application to man eating a diet of ordinary foods.

The last and fourth point I should like to make is in connection with experimental studies with laboratory animals. Here, I think the data are somewhat stronger with respect to the hazards of fat and, perhaps, the saturated fats. However, I think you people would be interested to know that in almost all of the experimental studies, animal fats have not been used. The fats employed are all types of vegetable fats. Thus, whether or not the data obtained from laboratory animals apply to large intakes of animal fats is not known.

Many of the criticisms I have mentioned in connection with other types of studies apply equally well to laboratory animals. We seldom have autopsy data on the animal studies. The records usually do not include facts on cholesterol. Again, the time periods are short.

However, probably the most important handicap to animal experimentation in this field is that, to my knowledge, actual death due to coronary infarction has not been produced experimentally in animals. Cerebral hemorrhage has not been produced experimentally in animals. We are only studying changes in blood cholesterol and, in a relatively few cases, autopsy determination of atherosclerosis, but not of coronary infarction.

Diet, in my opinion, certainly seems to be a very important factor somehow in this important disease. I suppose we can take the various factors which are involved, or which we think are involved, in coronary heart disease and break them down into basic and environmental factors.

BASIC FACTORS: The basic factors such as hereditary changes in the structure of blood vessels, sex, body type, race and age are things we can't control. Those are the basic factors; the environmental factors are things such as so-called stress and strain. I am not aware of any data which give any encouragement to you people who think you work awfully hard, and those who run from here to there, such as from Boston to Chicago to give a talk and go back in the same afternoon.

So far as I know, stress and strain do not come into this picture. Early this year I spent a little time in Africa to see first-hand some of the people who were doing some interesting studies. One of the things that impressed me on a number of trips out into the villages was the stress and strain under which many of the Africans live. It is an entirely different type of stress and strain—largely concerned with whether you are going to be in one piece in the morning—but it is still quite a lot of stress and strain. However, on the basis of autopsy data in Africa, the incidence of atherosclerosis and coronary heart disease is quite rare.

Tobacco, alcohol and social customs are environmental factors which have been postulated as being important in this disease, but I don't know of any

evidence to support such a belief. That leaves us with two important factors and they are pretty well tied together—diet and exercise.

I do think that they are important. I suppose that Dr. Stefansson would like to have me give some reasonable explanation of the fact that he, and in the old days, hundreds or thousands of Eskimos, got along so well eating 80 per cent fat and 20 per cent lean. How can that possibly make sense?

On the way out today, I thought of an explanation. I think there might actually be some difference between diets which are very high in fat and those which most nutritionists consider high in fat, that is, the diets most of you consume.

The latter would run 40 to 50 per cent, not 80 per cent. Diets which Dr. Pollack and I would consider low in fat would probably contain less than 20 per cent. I think the explanation may be that when you have a diet which is 80 per cent fat, you actually consume fewer calories in 24 hours. That is not just a guess on my part. Someone working at one of the New York hospitals actually put, as I recall, half a dozen subjects in a hospital metabolic ward, weighed all their food very carefully and measured exactly what they ate and what they didn't eat. He gave them a diet which was largely fat, let's say 80 per cent fat and 20 per cent lean, and he actually showed that when you have a diet with such a large fat intake you get filled up in a hurry and can't eat much more.

FAT SATIATES: When Dr. Stefansson comes down to Boston to visit me he always asks for roast beef with an extra serving of fat. The waitress always wonders why the gentlemen wants extra fat when other people cut it off. He eats the fat first. The 20 per cent lean comes later. I will bet that when he and the Eskimos and his friend, Dr. Pennington, who is of the same school of thought, get so much fat in their diets, they just get filled up fast and don't eat any more.

Part of the success of a high fat diet, according to Dr. Pennington and Dr. Stefansson, lies in eating the fat part of the meat first.

The 40 to 50 per cent fat diet that you and I have been consuming for many years does not include enough fat to kill the appetite. The result is that you get too many calories. Then, if you go down to 20 per cent fat diet, a low fat diet, you are getting fewer calories because of the fact you are consuming very little fat. Fat is the greatest source of calories, containing 9 calories per gram.

So I believe that a reasonable explanation of the fact that people who do eat 80 per cent fat can lose weight is because they don't get so many calories over a 24-hour period.

Members of a group like this usually want to know: What can I do, personally, that will help me to avoid coronary heart disease?

All I can say is this: On the basis of the present evidence, probably the most important thing for you to do is to watch your body weight. Does this mean less fat or more fat? For most Americans with whom I have contact, and for most people that I see in hospitals, and for most of my colleagues who talk about their patients, it means less fat.

However, I would be perfectly willing to believe that if you would eat more fat according to the Pennington or *Holiday Magazine* diet, you could also control your weight. Weight is what is important, and exercise comes into the picture of weight.

Exercise is also important in general health from many other viewpoints. You can improve your circulation with a little exercise. It is one of the greatest ways to avoid the constipation with which about 60 per cent of Americans are troubled. It also improves the mental and physical tone of the entire body.

Therefore, the control of body weight, which means don't eat so much for most of us, and exercise, which also helps to control weight, are the most important things that you can do today.

HAZARDS OF CHANGE: We have some evidence which I think may turn out to be interesting from the viewpoint of fad diets. The trouble with most fad diets is that you take off 5 or 10 lbs. and then put them on, and then you will take off another 10 lbs. and put them back again.

We have a little evidence which begins to indicate that becoming fat is far more of a hazard to your blood vessels than being fat. It isn't the fat that you are 50 lbs. overweight and your heart has more to do for X number of years. It is the fact that you get fat and then you lose weight, and then get fat. I think that is an important hazard with respect to most fad diets.

What can you do as an association? Well, of course we would like to have more support in research. When I say we, I don't mean our laboratory alone, but I mean the many other laboratories that are working on this and other problems in the United States.

Many things could be done. We could do better studies of people with differing diets—high-fat as well as low-fat. Dr. Stefansson suggests that we should study groups of people who consume large amounts of fat as well as those who consume smaller amounts. He says that the sheep ranchers in Outer Mongolia are supposed to be the largest consumers of fat meat, and they also drink butter tea which, as far as I can tell, is about half tea and half fat. I can only ask: "How do you get into Outer Mongolia," or "How do you get out?"

What about the vegetarians? Do they have more atherosclerosis and heart disease or don't they? I don't know of any evidence or data along these lines.

Puerto Rico is a place where large amounts of lard are consumed. Do they have high incidence of coronary disease and atherosclerosis or don't they? Somebody needs money to find out. We can do more studies with monkeys.

I think it is important to work with monkeys because monkeys are primates and there are many reasons to believe that things found out about monkeys have somewhat more application to you and me than data from experiments with rats, rabbits and dogs.

What can we do with the monkey? We can certainly find out the effects of obesity and exercise in favoring the development of atherosclerosis. We can produce lesions of atherosclerosis in the monkey. We

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Crossroads of Decision



C. HAMILTON MOSES, chairman of the board, Arkansas Power & Light Co., sees America on the threshold of 50 years of unimaginable progress for all, but cautions we must choose between private enterprise or government management, the material or the spiritual, peace or war, brotherhood of man or the cremation of the human race.

YOU REPRESENT one of our nation's basic industries. You touch every phase of American life, high and low, town and country. You represent this modern miracle we so proudly call free enterprise—that intangible something known as American business, the soul and substance of our nation's economic prestige, in all its magnificence, its goodness and its badness.

There is ingenuity, power and personality enough in this room to sell any righteous cause to this nation if you would only put your hands and your hearts to the project. As much as in any group in the nation, I feel I stand in the presence of the future destiny of our country. If there was ever a time when any nation had a date with destiny, that's America today. Herein lies your appointment with opportunity.

You stand today on history's highest pinnacle, built by grueling and glorious years, and recall from memory's storehouse your great traditions and fine history, a trail of troubles and a series of successes. Yours has been a half-century terrible and terrified, yet holding before your eyes the promise of a better and finer way of life for all mankind. Then, judging the future by the past, you look down on the ensuing half-century with varying emotions, but with chins up and courage unafraid.

Your past 50 years have been the greatest economic romance in all history. You have seen a nation's population increase from some 82,000,000 to nearly 170,000,000. You have seen our nation endure periods of both boom and bust. You have seen too much stress and strife and too many wars. You have seen our labor force increase from under 30,000,000 to more than 66,000,000. You have seen our gross national product increase from some \$40,000,000,000 to \$390,000,000,000.

With less than 1/15th of the world's population and land area and a little more than 1/15th of its natural resources, this nation today produces nearly one-third of the world's annual output of goods and services. Our national income is equal to that of any other ten nations in the world. Our country now has 90 per cent of the high school and college students of all the world. These are fabulous figures which, back in the days of your organization's birth in 1906, no man dared dream would ever come true. But that's not all; the average American

today works one-third fewer hours, with four times the purchasing power.

Your government was then spending less than \$750,000,000 per year; now it's spending some \$60,000,000,000. Your national debt was then nil; now it's \$280,000,000,000, \$6,800 per family. But at the same time, your private enterprise system has built the greatest structure for human welfare on earth. The average American is the envy of the world. He has higher wages, bigger pensions, more hospitalization, more life insurance, more social security, more recreation, more time to play, better churches and better schools and better prospects.

THE FABULOUS FUTURE: A big company executive recently said, "Our future is so promising that we will produce more in the next ten years than in the previous 75 years of our existence." The du Pont president recently said, "Half of our working force is now engaged in the production of things unheard of 50 years ago."

These economic miracles have brought perplexing problems. You face a tremendous task, testing as never before your courage and your ability, and the penalties for failure have never been so heavy. Yet, today, you face the most fabulous 50 years that ever challenged any nation or any people. Yours is an opportunity unlimited, so unbelievable that few people dare blueprint your future.

I read the story of a New Jersey banker who called a famous architect and city planner and said, "You appraise our town. Just imagine what we could accomplish, how big and fine we could build, if our citizens made big plans and then worked to carry out those plans."

The architect did his job well. The finished picture was put in the bank window, a beautiful panorama. Thousands looked on in wonder. Many asked, "What is this picture? What does it mean?" The banker said, "This is our town 25 years from now." The people said, "You're crazy. That's a beautiful city; it can't happen here." But it was not long until the biggest old department store in town, not a pretty thing, burned to the ground. The owner called the architect and, pointing to the picture, said, "That's my building. I want you to rebuild my store just as it is in the picture."

That was done, and the new store was a thing of

beauty. You know what happened. The owners of the two old buildings on either side had to get in step. They called the architect and said, "Fix our buildings just like they are in the picture." That was done, and the story says in 15 years that town was built even better than the architect and city planner had dared blueprint.

I know it can be done. I have gone out a thousand times to the various communities in my state, from three to six times to every community, urging our people to dream big dreams, to blueprint their future in a big way, because little dreams do not have the magic to stir men's souls. I saw dozens of our towns draw fine blueprints, dream big dreams, and then go out and literally transform their communities within a ten-year period.

Will you dare dream with me for just a few minutes? Will you dare project a goal of courage and ingenuity of the American private enterprise system, this American way of life? Come 2006, and that's just around the corner: America will have a population of more than 300,000,000 people, four times your population of 50 years ago. America will have a labor force of more than 130,000,000 people, gainfully employed at unbelievable wages. This nation will be enjoying a gross national product of upwards of \$1,250,000,000,000, an amount of money few minds can conceive and no pocketbook except that of a tremendously expanded American economy can ever pay.

In the next 50 years will come new materials by the score, new synthetics, new plastics, even items now unknown. Fresh water from the salty sea will make the deserts flourish. The ocean floors will give forth oil and minerals in unbelievable quantities. Guided missiles will find civilian uses. Pilotless aircraft will carry their millions around the world and sailing through the stars. Helicopters will make the principal highways of the air just as busy as the highways of earth. Automation will furnish to men more pleasure and more profit. Electronic machines will perform many of the functions of the human mind.

These new and as yet unknown things will dwarf past industrial revolutions. The material progress that you know today will become but a pretentious prelude to the accomplishments of the next 50 years.

CHALLENGE OF THE CENTURIES: Your next half-century is not all sunshine, not a bed of roses. Your future will be clouded with crises and climaxes, and with forces and tensions that must find explosive expression. You do not yet know whether your unprecedented American economy can even stand on its own feet. Your leadership today is not willing to give it a try. During the past half-century, you have seen your priceless states' rights slowly leave your local capitals and settle yonder in Washington—all for various portions of political pottage in the forms of gifts and doles and subsidies, all in the name of a newborn phrase to which many millions bow the knee of obedience, the welfare state.

More important than your coming research, than your unpredictable technology, and the human progress they will bring forth in money and luxury, is the question of what will happen to the hearts and minds and souls of men. Many today think we Americans are headed for a soul-less and mechanized tomorrow, populated by human automatons, just cogs in the runaway machines of an unpredictable future.

There now are loose in this world two conflicting philosophies of life, both sincere and powerful, yet at each other's throats and both cannot live. One represents government management, domination by the few, dictatorship by the powerful; the other represents the dignity of the individual, the recognition of his inalienable rights that come from his God, and what we call private enterprise.

In the interest of clarity, let me ask a few questions. Why has government in business, in competition with its own citizens, been continuously on the increase? Why is your government the largest holding company in the world, having today more business assets than the combined 30 largest corporations in the world? Is this for the public good? If not, why cannot you so sell your people? Why cannot the farmer plant and produce and sell as he pleases? Why cannot the average American work for whom and where and at whatever price he pleases? Why does your industry face so many restrictions and regulations? When will business by edict become too great a burden?

Is it true that the principal task of our government today is to so build and plan the future that our nation can win in this coming battle for survival? Is it true that we are treading in the trail of another great world conflict that could cremate large segments of the human race?

CROSSROADS OF DECISION: The voice of experience, contemplating these trends and times, cries out to you today, "Which way, America?" In the next 50 years—this most critical period in humanity's history, this coming half-century of greed or of good—you must choose your own road, walk in your own way of life—private enterprise or government management, the material or the spiritual, peace or war, brotherhood of man or the cremation of the human race.

There never was a time when American business stood on such a high pinnacle of power or faced so many rainbows of unprecedented promise or such terrible consequences for failure. Yet, there never was a time when our business system faced so many difficulties, when our personal freedoms and security were fraught with so many dangers. For years, America has lived with a crucial crisis just around the corner.

Our people are literally crying for a dedicated leadership. This matter of inspiring leadership, of building a people's morale, is too intangible to measure in terms of capital accounts. It is not found in the balance-sheet. It is something you can't buy. You cannot hire it done; you cannot send an assistant. You must dedicate your own self. It is your personal task; this is your date with destiny.

American business is right at heart. It does have a deep and abiding interest in the welfare of its people. Our business system does know that democracy means nothing to a hungry man. You do know that economic freedom starts and stops with a job and that to be politically free, a man must be economically free. You long ago recognized that our democracy will work for us only when we work for our democracy. We accept the challenge of the times.

Our business system will give less and less attention to material things—to bales and to barrels, to bushels and to bayonets, to greed and to gold—and more attention to

the urge of the human soul and to the hopes and fears of Mr. Average Citizen. We will more and more fight our battle in the hearts and spirits of men. The private enterprise system of the future will have more and better codes of ethics controlling its operations. Underlying your expanded business and profits will be the Golden Rule.

During the next 50 years, we will put ourselves to the task of teaching to our families and our employees and our associates the meaning and power of our Declaration of Independence and our Constitution and our Bill of Rights—those basic charters of our American liberty. We will go to all the high schools and all the colleges and sell our young people, at any reasonable personal sacrifice to ourselves, on the fact that our system, our way of life, our American heritage, have built the greatest production on earth, and that they, as American citizens, are the envy of the world.

WILL MINISTER TO SOULS: In the next 50 years, our big business institutions will be supporting schools and churches and denominational colleges and chapels for prayer and meditation and maintaining chaplains to minister to the souls and spirits of their employees. In this period, we will find a way to teach our children and our families more of the great Biblical characters and of the great Biblical precepts, rather than the Lone Ranger and flying saucers. And the benefits of such teaching will be very great.

In the years to come, we are going to find some way to sell the goodness of business, rather than the bigness of business. We are going to sell the benefits of our system, rather than its profits. During the past 50 years our private enterprise system has built the greatest salesmanship force on earth. We can sell any purchasing agent anywhere. We are going to find a way to sell this system, its greatness and its glory, to all of our people.

We will not forget that no earthly Utopia, however profound and appealing, will satisfy the spirit of man. This period of future abundance and even super-abundance that during the coming 50 years man will experience, will not satisfy the human soul. The answer is in God's eternal purposes and plans for man. Those who play with these toy worlds, these building blocks of the universe, must be inspired by awe and mystery to a dedication for building better lives.

There is no conflict between science and research and our immortal souls. Science is not the enemy of the soul. Man, garbed in the wings of the airplane, is not less devoted to truth and justice. Virtue thrives on progress, and human dignity can be nurtured in the mansion or the laboratory as well as in the log cabin. Every achievement on the physical plane brings both danger and opportunity. Prometheus gave man fire that both warms and consumes. Research brought motorcars that made possible panzer divisions. Yet firebugs can't be blamed on Prometheus, nor bombing on the Wright brothers.

Your destiny is not written in the stars; it's not in the lap of gods. It's within the control of man and his God. This is your personal responsibility. It spells your eventual glory, or maybe woe and desolation. Your country, your government, your way of life, your personal freedoms are at the crossroads whether you like it or not. However frightened and bewildered, you have no other

choice except to step up and say, like Samuel, "Lord, here am I."

The world's greatest progress has been made under the American government, not under Greece or Rome but under the Declaration of Independence and our Constitution. Here was first recognized the dignity of man, that his rights come from God and are inalienable. Any government that transgresses those God-given rights is in danger.

YOU ARE THE ANSWER: It's not an impossible puzzle. The answer is not in trips to the moon, not in traversing the blue empyrean on the wings of the birds. It's in devotion and dedication to some higher power. Even Voltaire said, "If God did not exist, it would be necessary to invent Him." Man did not invent God. Man is God's highest creation, and He's counting on you. Again, this is your task. This is your date with destiny. You are the answer.

A few months ago, I attended the White House conference when, for a day and a night, the President and his cabinet made a report on the story of our government and the affairs of the world. After listening to the stories of our defense and our war machines and bigger and better bombs and radar and taxes and billions all for the purpose of destruction, even though in defense and for survival, I left the meeting disturbed and upset.

As I walked out of the room, I noticed just one piece of literature, an ordinary hymnbook, "Songs For All The Churches." I thought to myself, "There is more power, there is more strength, there is more that holds together our country and binds the hearts of men to a faith unbounded and a future unafraid in that hymnbook than in all the missiles and war machines, all the debts and dollars, that have been described here today."

The challenge of the next half-century is in safe hands. The dominant factor is our ever-better welfare, our way of life, our free enterprise system, American business, big business, little business—the butcher, the baker, the candlestick-maker—and that's you. That's your 50-year date with destiny.

To place the security of the individual in the duty and power of the state is to place the state above the individual. That's not God's law; that's man-made creed. That's the road to human slavery and to social suicide.

On a New England tombstone you read the words: "My son, that which thy father hath bequeathed you must earn anew if you would keep." In the next 50 years, private enterprise must sell that truth to the minds and hearts of every American. Truly, God has been good to America. You are the possessors of a spiritual heritage of morality and character and religion that transcends your economic heritage as the sun surpasses in its glory the splendor of the faintest star.

Remember your forebears, the Pilgrim Fathers. Recall the opening sentence of the Mayflower Compact that marked the birth of the Republic: "In the name of God, Amen." Recall in the same instrument those words of dedication and conviction: "This we have undertaken for the glory of God and the advancement of the Christian faith." Then listen to the final words in your Declaration of Independence: "And for the support of this declaration, with a firm reliance on the protection of Divine Providence, we mutually pledge to each other our lives, our fortunes and our sacred honor."

Make Friends with Asia



HOPE FOR PEACE and danger of war lie in the Far East which is undergoing great changes, says General Carlos P. Romulo, Philippine Ambassador to the United States.

WE are living in a dangerous world and these are crucial times, but, in order for you to comprehend the message that I have for you, I shall take you first to the world of yesterday, to the days immediately after World War II, when America was demobilizing her troops. While America demobilized her troops, Soviet Russia refused to demobilize one single Russian soldier.

It is well to revert to a fundamental fact at this juncture. Those of us who have studied Marxism and Leninism and those of us whose business it is to follow foreign powers know that whatever may be the zigs or zags in Soviet Russia on foreign policy, unchanging changeless, unchangeable is communism's basic objective which is world communism. Let us make no mistake about that. Let us not indulge in any wishful thinking. Communism's basic and fundamental objective is world communism, whether it is led by Stalin or Khrushchev or Bulganin.

Immediately after the second World War, Soviet Russia saw that the only power that at that time could contain her ambition to achieve her objective of world conquest was weakening herself by demobilizing her troops. Soviet Russia saw the beautiful opportunity presented to her to start in the course of empire. One after another, Latvia, Lithuania, Albania, Bulgaria, Rumania, Czechoslovakia, Poland fell under the sinister shadow of the hammer and sickle and you were helpless to prevent it.

But there was one country in Europe, of all countries, that Soviet Russia really wanted because, as you know, Soviet Russia has always been a landlocked country. She wanted an outlet into the Mediterranean and wanted to get out to the Mediterranean in order to be able to cut the western world's lifeline in two and ultimately deny to you the use of the Suez Canal. As far back as 1947, Soviet Russia wanted to deny this important Suez Canal to you.

INFILTRATION OF GREECE: So, what did Soviet Russia do? She infiltrated so-called guerillas, but mostly communists, into Greece with the specific instructions to overthrow the Greek government, to subvert the Greek government and make of Greece another puppet state like Czechoslovakia and Bulgaria and Rumania and Poland, in order to get an outlet into the Mediterranean. That is what Soviet Russia wanted to do in 1947 and 1948.

Luckily for the free world, your statesmen and your military men saw what Soviet Russia wanted to do in Greece, so you sent to Greece one of your greatest American generals, Gen. James Van Fleet and with him went a corps of American military experts. Together they trained the Greek troops and together they helped direct Greek strategy. Then American economic aid began to pour into Greece; American material began to flow into Greece. I am sure many of you in 1947 must have said, "What in heaven is the use of sending all these men and all these materials and this economic aid to Greece? Greece is 10,000 miles away from Chicago or Kalamazoo or Tallahassee."

But, it was because your statesmen and your military men saw what Soviet Russia wanted to do in Greece, and because of your aid when the Greeks saw that you were interested in their plight, that like a united people, they fought communism back and they succeeded in defeating Soviet Russia's attempt to make of Greece another puppet state and they succeeded in frustrating Russia's attempt to gain an outlet to the Mediterranean area. That was in 1947 and 1948.

GOAL IS ACHIEVED: But, to show that communism is continually working and fighting for whatever it wants—what it failed to do in Greece in 1947, it succeeded in doing in 1956 by means of the sale of arms through Czechoslovakia to Egypt so that suddenly in 1956 Soviet Russia emerged as a Middle Eastern power in the Mediterranean, which it never was before.

In 1947 and 1948, communism was advancing in Europe, in France, in Italy, in Belgium, which were devastated by the second World War. There was misery and suffering, the greatest allies of communism. Communism was advancing until American economic aid came in 1949.

My wife and I happened to be in Europe in 1949 and we saw the galvanizing and electric effect that American aid had on the European masses. You helped detain communism in Europe because as usual with American statesmanship and American national attention at given moments, because of your common origin and common culture with Europe, all that leadership and all that statesmanship and all that attention was concentrated on Europe. Then one sad day you heard from your radio commentators and you read across the front pages of your newspapers in screaming headlines

that on the other side of the world a catastrophe had befallen democracy.

China was conquered by communism. Six hundred and fifty million Chinese were lost to democracy, lost to you, 650,000,000 Chinese that Soviet Russia has made use of for her infamous ends and this is no mere conjecture. We saw how Soviet Russia fought the Korean War to the last Chinese soldier. Not one single Russian soldier was engaged in Korea. Not one single drop of Russian blood was shed in Korea. But that was really a Soviet Russian imperialistic war. And now Soviet Russia has 650,000,000 Chinese that she can make use of for her wars by proxy.

BASIC STRATEGY: This happened because we have chosen to ignore a truth and this truth is what Lenin wrote in black and white when he laid down the basic strategy of Soviet Russia to achieve its objective of world conquest. He wrote, "The road to London and Paris is through Peking and Calcutta." Lenin wrote these descriptive sentences when he laid down the basic strategy of Soviet Russia to repeat its world conquests. It is in strict conformance with that basic strategy, that, while all your statesmanship and leadership was concentrated on Europe, Soviet Russia took the first big grab in Asia by conquering China.

That is the world of the past. Now let's look into the future. What is the balance sheet of democracy in Asia today? We have lost 650,000,000 Chinese. Let us hope and pray, temporarily, but, as of today we have lost 650,000,000 Chinese, and every day that passes is a dangerous day for democracy in China.

Next to China is India with between 400,000,000 and 500,000,000 Indians. They proudly proclaim they are so-called neutralists, whatever that means, because I don't believe in it. I don't believe that in a fight that concerns freedom, anybody can be neutral. I define the neutralist as the wife who sees her husband chased by a bear and she very neutrally says, "Go it bear; go it, husband." But, we are not talking about a bear today; we are talking about a type of communism which does not run away when you turn your back on him. That is why I don't believe in neutralism. However, whether I believe in it or not, between 400,000,000 and 500,000,000 Indians say they are neutral and, therefore, they are not siding with us in our life and death global struggle against Soviet Russian imperialism.

How ASIA STACKS UP: Next to India is Indonesia with between 80,000,000 and 100,000,000 Indonesians who also say, like the Indians, that they are neutrals. Their President Soekarno recently visited Moscow and there he made the statement that the only persons in favor of war are those who believe in fascism, capitalism and feudalism. That is what the president of Indonesia said in Moscow after you received him here and unrolled the red carpet for him. He signed a treaty as you must have read in the papers; he was given a Cessna plane as a gift from the Russian government, and I read in the *New York Times* of today that he said he was impressed by Moscow and Soviet Russia.

There you have between 80,000,000 and 100,000,000 Indonesians, like the 400,000,000 Indians, who say they are neutral and are siding neither with you nor Soviet Russia. But I say neutralism is at the expense of democracy, never of communism, because when you

equate free elections, freedom of worship, freedom of the press with a dictatorship, you are already undermining democracy. You cannot equate all of these freedoms with a slave, and when you are neutral you are equating them with dictatorship.

Next to Indonesia, we have Burma with 18,000,000 Burmese who also say they are neutral, and Ceylon with 50,000,000 Singalese. We fought side by side with Sir John Kotelawala in Bandung for democracy. Ceylon recently fell and a government against him arose, a neutral government in Ceylon. So, counting the Indians, Indonesians, Burmese and Singalese, you have a total of more than 500,000,000 Asians not with you in this life and death struggle in which you are engaged. Add to that the 650,000,000 Chinese against you, and you have a total of more than 1,000,000,000 Asians not with you. That is the balance sheet of democracy in Asia as of today.

What do you have left in Asia? You have, of course, the Philippines, your friends through fair weather and foul, 21,000,000 Filipinos. In Thailand you have another friend and ally, 18,000,000 Thais. Pakistan is another friend and ally, with 80,000,000 Pakistanis, but that is all. That is a total of 119,000,000 Asians willing to fight side by side with you in the battle against Soviet imperialism, but as against more than 1,000,000,000 Asians not with you.

ASIA IS IMPORTANT: That is the balance sheet of democracy in Asia today. When you want to look into the future, you have to consider that because that is something that you cannot ignore; that is something you cannot gloss over, and so Asia is important to you.

What is your Pacific chain of defense? In military language, what is your American perimeter of defense, as approved by your Congress and your Pentagon and your White House and your State Department, where you are now spending billions of your American dollars for the maintenance of your air, naval, land and military installations?

Visualize your geography; your American perimeter of defense on which depends your security is in Asia and it extends from the Aleutians, way up north, through Japan, Korea, Okinawa, Formosa, Guam and the Philippines. That is your American perimeter of defense in Asia, and that is why President Eisenhower announced to the world that America will defend Formosa to the last. Formosa is an important link in that chain of your security, and you can't allow any of the links in that chain to fall under communism. If any of the links of the chain do fall under communism, that whole chain can snap. If that chain snaps, your national security here in Chicago is seriously endangered because, don't forget, the Pacific ocean no longer affords you the protection that it gave you ten years ago.

While in terms of mileage that Pacific chain of defense may be 10,000 miles away from Chicago, in terms of your national security, in terms of guided missiles and in terms of supersonic things, in terms of a snorkel submarine, in terms of the atom bomb, the Pacific chain of defense is your next-door neighbor or like Cicero.

That is why you fought in Korea, because that unfolding strategy of Soviet Russia in 1949 was to conquer China first and then Korea. If the communists

had succeeded in Korea, they would have swept southward, demolishing your Pacific line of defense.

PHILIPPINES IN PATH: How well we know that in the Philippines because we are in the path of communist aggression. We know that as far back as 1947 Soviet Russia tried to do in the Philippines what she tried to do in Greece. She infiltrated in the Philippines the so-called Huks, Moscow-indoctrinated communists with specific instructions to overthrow the Philippine government, to make the Philippines a puppet state, preparing for the day when the communists felt they had won in Korea. They would have swept southward and would have found the Huks as vanguards in the Philippines and my country communistic.

That was planned in 1947 and 1948 and 1949. That is why you fought in Korea, because you could not allow Korea to fall. The American boy who fought and died in Korea really fought and died for the safety of his sweetheart here in Chicago, his relatives in Boston, his relatives in Tallahassee.

That is the meaning of the Korean intervention. You could not allow Korea to fall under communism because that is part and parcel of your American perimeter of defense. That is how important Asia is to you, and that is why Russia has concentrated on Asia.

MAKE FRIENDS WITH ASIA: That is why it is so important that America should not let Asia down, and if you are going to look into the future, there is the future. More than one-half of the world's population lives there. All the essentials of materials are there, in many cases, primeval. The future, the next 50 years, if you want to dip into the next 50 years, look towards Asia. Make friends with Asia because you are engaged today in a war, in a global struggle, the like of which recorded history has never seen.

It is not only a fight for the strategic materials or for areas, but it is a fight for man's mind and man's heart and no one single nation can win this war no matter how powerful, no matter how mighty. Why? Precisely because of the atom bomb or the hydrogen bomb which we know can erase entire populations and cities. If and when the atom bomb is used against us here in America, God forbid, that is precisely what you need, other nations and other peoples and populations to rally around you and to rise to your defense.

Make friends with Asia. You can do it. You have done it once, and you can do it again. You have done it in my country. When you first went to the Philippines, we fought you for three years. You had to kill 350,000 Filipinos before we laid down our arms in defeat in recognition of your material might. My father was one of those who fought you to the last. I was trained as a boy to hate you. My people hated you as only an occupied people can hate an army of occupation, and yet what happened? Why is it that now we are your truest friends and your staunchest allies in Asia? The answer is very simple—because in your dealings with my people you followed the Golden Rule, "Do unto others as you would have others do unto you."

YOUR WORD IS BOND: In your dealings with my people, you, the stronger nation, respected the dignity of the human soul. That was important in the relationships between peoples to respect the dignity of the

human soul. All the promises to us, you fulfilled, of course, not without opposition from here. There was a strong opposition. Your vested interests, your powerful American newspapers, powerful sectors of your army and navy opposed Philippine independence.

But that clean, wholesome, honest American conscience represented by the average Tom, Dick and Harry, that clean wholesome honest American conscience that was deaf to the tingle of a golden voice, that was blind to the loom of power, and your Congress faithfully interpretive of that honest, wholesome American conscience was unswerving in its determination to keep faith with the Filipino people. In spite of strong opposition, in spite of powerful lobbies, Congress made good every promise that it made to us so we Filipinos learned to know that America's word is her bond.

We are human, just as you are, reacting fundamentally to the same emotions, so when we saw that your policy in the Philippines was dictated by and large by honesty and fairness and justice, so different from the policies of the other colonial powers surrounding us in Asia, our feelings gradually changed. Our feelings underwent a complete metamorphosis from hatred and suspicion and ill will to friendship and confidence and loyalty. When Japan struck and got you totally unprepared, when you were going from defeat to defeat in Asia, when all our fellow Asians turned against their white sovereign nations and joined the Japanese, when by every pragmatic and racial consideration we, too, should have joined the Japanese, instead of that I am proud to say my people were the only people in Asia that stood loyally by its sovereign nation. And we fought side by side with you in your darkest hour in the Pacific.

WHAT ASIA ASKS: We did this because in your dealings with us you followed the Golden Rule, and you respected the dignity of the human soul. All that Asia asks is that the pattern you set in the Philippines be followed by your allies all over, and that you exert your moral influence as the world leader today to see to it that the pattern that you set in the Philippines is followed forever wherever it can be followed because the East met the West in the Philippines.

How well I remember how we fought in Bataan, how we fought for four months outgunned, outmanned, outplaned, starving in those foxholes, living like animals for four months, eating a handful of rice once a day for four months. Malaria-ridden, dysentery-ridden and yet we kept fighting because we were fighting with a spirit of free men. And how well I remember those days when after every battle operation General MacArthur and I would look at those battlefields and see those foxholes filled with heroic dead, here a handsome American boy killed, around him seven, eight, nine, eleven handsome Filipino boys also dead. All killed by the same enemy bomb, their blood freely intermingled in the sacred cause of freedom, and even as I talk to you today, their bones now lie in Philippine soil. Dust and ashes, sacred earth, dust and ashes and who will dare sift that dust and those ashes by race or separate them? East met West in the Philippines, as East will meet West in Asia if only you will continue to make your preachments keep pace with your ideas and your actions coincide with your ideas.

Farmer Has Good Future



HE HAS LEARNED, however, says Charles B. Shuman, president of the American Farm Bureau Federation, that his problems must be self-solved, and that government aid has proved to be a handicap to progress.

I AM privileged to have this opportunity because in this day of political discussions and the advocacy of various political panaceas for the solution of agricultural problems, it is a little difficult to try to sort facts from nonsense. I hope we may take our eyes off the present confused situation and look towards the future in our industry.

First, though, I want to congratulate the American Meat Institute on the wonderful record of progress, the outstanding achievements of the past 50 years, and to say very sincerely that the farmers of the United States appreciate the great contribution that the meat industry makes to American agriculture. I don't know of any other industry that is so closely allied and is so close to the thinking of farmers as is the meat industry. I also want to compliment you on your emphasis on efficiency, on the good job that you are doing in handling the processing and marketing of products, on the low level of costs that you have attained, and the constant goal of greater efficiency in your operations.

I have been interested to follow, as have many farmers, the record of accomplishment of your business, and while I sometimes am inclined to criticize, like all farmers, I recognize that your record is good. At the same time, of course, I would urge that you keep your eye on the future and work for continued improvement and greater gains in efficiency so that you can help us to find more efficient and better ways of moving our products to the market, to eliminate more and more of the constantly increasing costs of labor that go into the marketing, transportation, processing and distribution of farm products and particularly of meat.

If labor insists on pricing its product out of the market, we should be sufficiently intelligent to find out ways to help it. I hope we continue to eliminate as much labor as possible from the processing and production of these products for the consumer.

LESSON FROM PAST: In looking to the future in agriculture or any business, it is necessary to take a slight look backwards because none of us is endowed with the ability to forecast the future, and only by knowing of the past and taking lessons from the past can we use any degree of intelligence in looking ahead.

I have talked to a good many farmer and other

audiences on the theme of agriculture with a future versus agriculture with a past, and the theme was expanded on the idea that American agriculture has always had a good future. If you take any period in the history of agriculture, whether it was back 100 years or 50 or 75 or whatever time you wish to take as a base period, and then look forward, you would be forced to conclude that American agriculture always had a good future ahead. We have progressed.

We have moved forward towards a better standard of living for farm folks, increased efficiency on the farms, and also lower costs and cheaper food for the consumer. I think the record will prove that the increases in efficiency on American farms have been reflected in reductions in costs to consumers. I am not so sure that all industries can point with pride to this type of a record because it seems to me, at least in recent years, that much of the bargaining between industry and labor has been along the idea of how to divide up the results of increased efficiency between labor and capital and management, with little concern as to whether or not the consumer shared in the increased productivity. Whether it was by intent or accident, nevertheless, it is true the increased efficiency on farms has been reflected to the consumer in savings, as is illustrated by the fact that today the average factory worker needs to spend only 41 hours working to secure the food supply for his family for one month while as recently as 1952 it required 51 hours.

SAD EXPERIENCE WITH GOVERNMENT: Food today in terms of purchasing power of consumers is as cheap or cheaper than it has ever been in the history of this country. So it might be necessary to take a look back, but I don't think we need to spend too much time; just simply say that we on the farms of this country have had 25 years of experience with government activity in the realm of solving farm problems. Twenty-five years of sad experience, I might say, because as a result of this 25 years of experience, and the actions of government in the last five years through both Democratic and Republican administrations alike, we have had a 30 per cent decline in farm income. This decline, was during a period when technological progress in agriculture has been as great as in any period of time in history. Out of this 25 years of experience, however, we

have learned some lessons so all of this period has not been lost.

I will list a few of these lessons, not to explain them, but simply to give you a little background of where we have been. The first lesson we have learned is that prices of farm products are not made in Washington. I don't say that all farmers have learned that lesson, but a majority of them have. We know now that farm prices are made where the consumer accepts or rejects your product. Not all politicians have yet learned this lesson, as judged by speeches that are in the press each day, but, nevertheless, it is true that farm prices are not made in Washington. If they were, Congress would not have permitted a 30 per cent decline in the price of products in a five-year period.

A second lesson we have learned is that you cannot control the production of agricultural commodities by law. It would be possible, of course, to control production if the cuts dictated by law were sufficiently severe, but the Congress will not impose restrictions sufficiently severe to bring about material reductions in production. The quotas and allotments and other devices have in general failed to reduce agricultural production.

PRICE HAS A FUNCTION: A third lesson we have learned is that we can price our products out of the market. I am sure that you in your business experience know that full well. Most farmers assume that people will always eat food; yet, while they will always eat food, they do not need to eat food produced by farmers. That's becoming more and more apparent. Fifteen or 20 years ago the only reliable source for vitamins and minerals in the human diet was food. Today you don't need food to secure vitamins and minerals. You can go to the corner drug store, buy your vitamins and pills and your minerals in a bottle, and take a pill and swallow some kind of tonic, and eat a bale of hay, and you are on your way.

This is almost literally true. If we insist on pricing our products out of the market, scientific laboratories can and will in the future produce the food that goes into the great majority of human stomachs. This is a danger that farmers must realize. We have a choice to make. We can continue to produce for consumers, or we can turn it over to the scientific laboratory.

This could be summarized by saying that price has a function. I am sure that most farmers are learning more and more that price has a function and that that function is one change. Practically the only real characteristic of price is change. If it were not for the fact that prices need change, and that we need this price change constantly going on, we wouldn't need price. These are a few of the lessons that we have learned.

There are some popular fallacies that ought to be exploded, and they come in the same category as the lessons. One of them is that surplus in government storage or other storage warehouses is a good thing. This is absolutely not true. The only really good place for us to accumulate our surpluses, our reserves for the future, is in the soil and in livestock. The really true ever-normal granaries and surpluses in government hands serve no useful purpose. In fact, they are a millstone around the neck of agriculture.

OUTBOOMING BABIES: Another popular fallacy is



RESEARCH ACTIVITY on display at AMIF exhibit draws packers who want the latest data on how to improve their products.

that you don't need to worry about the future in agriculture because all you need to do is wait a few years and population will catch up. After all, we are only producing about 15 per cent more than this country can consume; therefore, just wait until 1975 and new babies will eat it up.

There is no basis for any comfort in this theory because our history indicates that we can increase our productivity in agriculture more rapidly than population is now increasing or probably will increase. We will probably stay 15 to 20 per cent beyond, and above the domestic needs, at least for the foreseeable future and even beyond.

Just now we are commencing to open a new door of technical knowledge such as can mean great increases in productivity in American agriculture. If we applied the knowledge we now have to all of the agricultural production in this country, we could increase our productivity from 30 to 50 per cent. There is no hope that population will catch up with our productivity in agriculture.

Another popular fallacy is that you can give the surplus away. All you need to do is to issue food stamps or subsidize low income producers or feed the starving in other countries. Today in this country of ours the level of income of the average person is the highest in real purchasing power that it has ever been. There may be a very small proportion of the population who would increase their diet if given free food or subsidies to increase their income, but it would be a very small proportion of the population.

For all practical purposes income limitations are not the reasons why some people in this country continue to eat an inadequate diet. It is a matter of choice or a lack of knowledge in large measure. As far as the world is concerned, of course, there is widespread malnutrition, but again the surpluses that we have accumulated in this country are not the kind of commodities that will correct this malnutrition.

WORLD-WIDE SURPLUSES: There is a world-wide surplus of wheat. Nobody is starving to death because they can't get enough wheat. There is a world-wide surplus of rice. There is a world-wide surplus of cotton, of feed grains. Practically all the commodities we have in surplus are in surplus position everywhere in the world.

True, we can dispose of them gradually if we could

shut down the intake into the surplus stockpile, but it would take a long while. The great need, of course, is to upgrade the level of human diet, both at home and abroad. If we could do that, we would not have surpluses because an adequate diet would dispose of all of the things which we have in surplus supply.

This is not something we secure by legislation or by subsidy. I just want to tell you this little story, a true story, as an illustration. I have a neighbor, who inherited a 120-acre farm 40 years ago, debt free, good buildings, good livestock, good fences, high level fertility. Today, 40 years later, after living off this farm and putting very little back, this neighbor of mine has one of the poorest farms in our community. His net income for all of last year was probably not more than \$1,000.

One of our good senators remarked to me that, of course, this was not adequate for a good standard of living for this man's family. He suggested that the federal government ought to pay this kind of farmer a subsidy. In fact, he drafted a tentative bill of paying \$2,200 minimum in order to keep them on the farms, and, I suppose, keep them from competing with industrial laborers in the city. He would subsidize these low-income farmers, so I said to him, "Well, George, had \$1,000 net income in 1955. Under your proposal, Senator, I suppose you would pay him \$1,200 to bring him up to \$2,200." He said, "That is right."

I said, "If you paid him \$1,200, how much money would he have for 1956?" The Senator replied, "\$2,200, of course, the \$1,000 he made plus \$1,200 we give him." I said, "Senator, the trouble is that you don't know George. If you gave him \$1,200 from the federal treasury, the total of his net income would be \$1,200. He would plow a furrow on his farm. The well of his desires, the amount of money it takes to buy his bread, and bacon and beans and whiskey is \$1,000. You would provide \$1,200 luxury to him more than he desires to earn."

SOMETHING FOR NOTHING: Of course, that is one of the troubles of the political approach to the solution of farm problems, the idea that you get something for nothing, the idea you can buy prosperity in American agriculture, the idea that you can replace economic laws with political laws. All these things we have found by experience to be unsound.

Then we come to the emotional approach which is so prevalent, and we hear the heart-tearing, tear-jerking appeal to take care of the small underprivileged farmer, the fellow who is getting forced off the land by the great corporation farmers. This is a fallacy which has absolutely no foundation in fact. Corporation, big business farming is not increasing; 91 per cent of our farms in the United States are family farms. This is exactly the same percentage it has been year after year after year for at least the last 40 or 50 years.

There is no percentage increase in corporation farming. It is true, of course, that the family farm is becoming more efficient and larger. One family can operate more and produce more per worker than ever before in American agriculture. We have increased our efficiency 79 per cent in the last 15 years, more, I believe, than almost any other industry, and so we are not requiring as many hired workers on the farms as we did previously.



GOVERNOR CHERRY of Arkansas poses with two Arkansas travelers, C. Hamilton Moses, chairman of Arkansas Power & Light Co., and Chris Finkbeiner, president of Little Rock Packing Co.

We are releasing about 300,000 hired workers per year to go into industry or other occupations.

BASIS FOR PROGRESS: This is good. This is the kind of basis we have had for progress in American agriculture for the last several generations—constant emphasis on efficiency, release of more and more workers, more and more folks to go into other occupations to produce the things which we can't produce on the farm.

This then is the real key difference between an agriculture with a future and one with a past. If you look at the agriculture of many other countries of the world—I don't care where you go, Sweden, Britain, Italy, France, Germany—you will find that agricultural progress and national progress in most cases stopped when efforts were made to fix or freeze on the farms all the folks that were then on the farms.

I visited in Southern Italy last fall on a small 3½-acre farm that had been in the same family for over 900 years. It was the same size farm raising the same kind of crops they did 900 years ago, using the identical kind of tools to till the land. There was no opportunity to accumulate capital, to expand the business, no opportunity to develop new methods, to increase the productivity per worker.

Why were they fixed in this rut? Simply because a government that professed to want to be kindly to farmers, that professed to want to keep more and more people on the land away back there somewhere set up a pattern which either forced or unduly encouraged excess workers to stay on the land and to stay in their old ruts of inefficiency. They fixed a pattern in the country that has caused agriculture to go down, down, down. That's not a very pleasant prospect for the future if that is the road we are going to travel in American agriculture.

I don't think that we are going to travel that road. We have been making these decisions. They haven't reflected themselves in too many actions yet. However, it is well to note that in the last Congress the decision was made not to return to the pattern of fixing prices that has done so much to pull us down in the last several years. In the first year of the application on a very modest scale of the flexible price support, we halted for all practical purposes the five-year decline in farm income. Another straw in the wind is that farmers and the livestock industry have successfully resisted efforts

to bring the livestock industry under the government control pattern.

LIVESTOCK AS BALANCE WHEEL: I think that the future of the meat and livestock industry depends to a great extent upon whether or not we succeed in regaining our traditional position, our traditional belief that livestock is the balance wheel of American agriculture. These crop control and storage programs have interfered with the natural operation of livestock production as a balance wheel in American agriculture. Prior to crop control programs, livestock provided the function of a natural ever-normal granary. It furnished a means of adjusting total agriculture production to the volume the market would absorb. Today that function has been disrupted, with livestock continuing in a free market and grain moved in a controlled market.

Normal livestock operations also have been affected by acreage control programs that forced acres out of crops such as cotton and wheat into the production of feed grains. The large supplies of feed grains were a contributing factor a year ago in the increased numbers of hogs and cattle with a resultant drop in prices. The relationship of our acreage and price support control programs on crops to the meat industry is emphasized by the fact that last year about 70 per cent of our harvested acres went into livestock production, and 54 per cent of the total \$29,000,000,000 in cash farm receipts were from livestock, poultry and their products.

The effect of feed grains from diverted acres on the competitive position of corn is equally dramatic. Corn has lost ground in the domestic feed market. In 1951-53, corn accounted for 76.4 per cent of the corn equivalent of four feed grains (corn, oats, barley, sorghum grain) fed per animal unit. In 1954-55, corn's share dropped to less than 72 per cent of the corn equivalent fed per animal unit.

If corn had maintained its 1951-53 share of the domestic feed market, the carryover would have been reduced from 920,000,000 bushels on October 1, 1954, to 856,000,000 bushels on October 1, 1956. Actually the carryover has increased to an estimated 1,200,000,000 bushels. These figures indicate controls in one sector affect operations and change balances in another. If we continue this route of fixing price and allocating the right to produce, we soon are going to price corn out of the feed market and that seemed an impossibility to many farmers a few years ago.

If livestock is to be effective as a balance wheel in agriculture, we must have fluctuation in the prices of grain, and some year-to-year changes in the volume of livestock marketed.

MULTIPLE FARROWINGS: Farmers, packers and labor have a natural interest in an even flow of livestock to market and in smoothing the jagged pattern of marketing cycles. We should work to minimize the seasonal variations in marketing as there is less justification for them today with changes in breeding practices, especially in hogs. We have witnessed some gain in multiple farrowings spread over the year as compared with seasonal farrowings of past years, but the seasonal swings in livestock marketing are still too wide. Here is an area in which we should expect further improvement through the application of better practices in agriculture.

The future of the meat industry will be brighter if we can further increase efficiency in marketing, proc-



ELBOW ROOM is at a premium as packer groups gather to discuss various session proceedings and other convention activities.

essing and distribution of farm products. This will require a continued emphasis on practical research. It will take teamwork between the packer and retail industry and increased sales promotion.

Costs between the farm and consumer have increased alarmingly. Higher costs of labor, transportation and materials are factors in these increases. Consumers have demanded more built-in services and packaging in the products they buy. However, just as farmers strive for increased efficiency in spite of high direct and indirect labor costs and other adverse factors, the meat industry must reduce costs of processing and distribution. Labor must match increased wages with increased productivity.

Agriculture, and particularly livestock, is a competitive industry. Consequently, when improvements occur in technology, the primary effect is an advantage to those farmers who first apply the new knowledge. As the new practice is adopted generally by producers, much of the benefit of improved quality or productivity is passed on to the consumer in the form of better food or lower prices. It follows, therefore, that farmers have a very real interest in an economic structure which will produce similar effects in the rest of the economy. Unless we have competition and a sharing of increased productivity with the consumers in the rest of the economy, farmers as consumers of industrial products are placed in an unfavorable position.

There is evidence that, in some sectors of our economy, labor and management are dividing most of the gains in productivity and even pushing consumer prices upward. The rising price of the things farmers buy has been one of the major reasons for the decline in farm net income. Eighty-one per cent of the reduction in net farm income since 1947 has been due to increased costs, 19 per cent to reduced returns.

We cannot afford this growing imbalance in our economy as it is a threat to our competitive system—a system based on sharing the gains of increased productivity by consumers as well as labor and management.

FINDING BETTER WAYS: The future of American agriculture and our entire economy depends largely on finding better ways of doing things. That is why we have progressed in the past, and I have faith in that method for the future. If we choose the price-fixing route to prosperity, we will end up with socialized agriculture. But if we take the route I have outlined, the farmer

will have independence and the opportunity to earn fair economic reward.

This conviction, while not shared by all farmers, admittedly is based on the majority opinion of the folks who constitute our membership. We have had some difficult times in bringing farmer thinking to focus upon reality. It is rather easy, as I am sure it is in your industry, to sway emotions and to get folks excited. There is, for instance, the idea that every one else is subsidized; therefore, the farmer should be subsidized. The idea that you can legislate prosperity has been encouraged by politicians.

The future of that kind of a route is a future of agriculture like Southern Italy, like Sweden, like England, perhaps even like Russia where farmers have some measure of security, sure. They are assured they are not going to be moved off their $3\frac{1}{2}$ acres. They are assured that their children will have enough food to eat, and perhaps be permitted to go to school for three or four or six or eight years. They are assured that their children and their grandchildren can always swing the same hoe on the same $3\frac{1}{2}$ acres, but they have no opportunity.

ROUTE OF OPPORTUNITY: I am certain that American farmers, like American industry, are going to choose the route of greater risk. Certainly the risk of going broke accompanies the risk of making a success, but I am sure they are going to choose the route of opportunity. If I were not confident that was the choice that farmers and people generally in this country were going to make, I would certainly call my three boys who are in agriculture college tonight and tell them to get out of the college. If we continue to follow the route we have been following for the last 25 years, through both Democratic and Republican administrations in agriculture, we are certainly going to go a route that will cause farmers some day to say: "Well, we did quite well for 150 years, and then we got into a rut."

We are fixed on a pattern of guaranteed security, of legislated poverty, and yet I am sure that we are going to go the other road which involves continued emphasis upon efficiency. We will go the road that involves the successful teamwork of the research institutions, college of agriculture extension services and farmers, emphasis upon increased efficiency in marketing so that we will move our products to the consumer at less rather than increased costs, continued emphasis upon the importance of price as a director of the way in which production shall go, price moving both up and down.

How do we get there? I haven't the time to tell you how we get there from where we now are, but it is not impossible. If we succeed through the application of the soil bank in reducing total agriculture production, and I think we can, and cut down on the input into this \$9,000,000,000 surplus stockpile, then given ten to 15 years, it should be entirely possible to dispose of this accumulated surplus without destroying markets.

That is one step in the program. A second step is to expand our markets in every way possible both at home and abroad. If every person in the United States of America ate an adequate diet, we wouldn't be troubled with surpluses. We could consume everything produced.

By developing our program as a team, working with this wonderful meat industry we can, I am sure, continue to expand our markets for farm products and particularly for the protective foods. We can look forward

to expanding foreign trade if we are intelligent in our approach. But, most of all, we need to return price to its proper functioning in the agricultural scene.

Incentive is a great thing and in the pattern of success in American agriculture. Incentive is the factor that causes people to excel themselves, to improve their methods, to get out and work to try to make our industries better, to improve our standards of living, to reduce costs of food to consumers.

Incentive, if preserved, can be one of the most important factors in assuring a bright future for American agriculture. I am sure we are on our way toward returning to an incentive system in agriculture.

Comments by Dr. Stare

[Continued from page 213]

can try to secure it by various types of diets or try to worsen it by different types of diet.

Secondly, we ought to be able to use the monkey to compare many different types of fat, the quantities of fat and the ratios of fat to protein and sucrose.

We made an interesting observation in our laboratory a few years ago on which we haven't yet capitalized. That is that the excretion of cholesterol, the elimination of cholesterol from the body, seems to be related to some extent to the sucrose content of the diet.

The more sugar in the diet, the less cholesterol we excrete, which means that we retain more.

As soon as we substitute starch for the sucrose, we seem to get rid of more cholesterol.

All of our studies with monkeys have been done with purified diets. Why don't we work with some natural diets? Why don't we feed monkeys on the diets which are comparable in natural foods to those we consume?

We simply don't have the time, the money and the space to do it now.

I should like to say that the problem of atherosclerosis and coronary heart disease can be solved. There have been tremendous strides on this problem in the last half century. A lot of research work is under way. I think you people in the meat industry really have an obligation to help solve this problem because it is important to you.

Diet, body weight and exercise constitute a triad that seems to be involved in this condition. However, since diet is made up of some 60 known separate nutrients, it is difficult to untangle them. They can be put together in many different ways.

I want to thank the American Meat Institute for the help it has given our laboratory in recent years, and the help it is giving us this year, and the help it will give us, I hope, next year. I just wish it could be a bit more.

Atherosclerosis is the greatest killer of American males. Two out of every three males in this room are going to die of atherosclerosis or some complications. The possibilities of improved treatment and, of more importance, the possibility of prevention, are all locked up—not by a lock with a key, but by a combination lock. Nutrition through the various nutrients offers the greatest chance of finding the right combination.

The entire food industry has a public interest, and I think, almost a survival interest in helping to find the combination which will unlock this interesting problem.

Onward and Upward



ECONOMIST ARTHUR UPGREN of Dartmouth College sees no check in the rise of gross national product and average family income if rolling adjustments can be made in our supply of capital to meet the needs of various segments of the economy.

THERE IS NO question about what was the exciting experience for the people of the United States in 1910. It was Halley's Comet. For those who are interested, a return is scheduled for 1978.

To those interested in the economy of the United States, the exciting prospect for 1956 is equally clear. It is the record-breaking increase of \$8,000,000,000 in business expenditures for new plant and equipment. This increase, as reported in *Economic Indicators*, is from \$28,700,000,000 at the end of 1955 to a new high of \$36,700,000,000 for the third quarter of 1956.

When we consider how this increase offsets the declines in other segments of the economy, we readily see what is meant by the now common expression, "rolling adjustments." This year the total sales of consumers' durable goods, in large part automobiles, is running \$4,000,000,000 below last year's record rate. The amount of residential building construction is down \$2,000,000,000 from the peak rate last year. In addition, the agricultural implement production is lower. Nevertheless, the total amount of gross national production in the United States marches forward under a double impetus. One is the 30 per cent rise in planned expenditures by business for new plant and equipment. The other, which is partly a reflection of modest increases in wages, is the 4 per cent gain in consumer expenditures.

Thus did the economy move to the record-breaking annual production rate of \$408,500,000,000 in the second quarter of 1956. Until revised early in July, gross national production (GNP) had been measured at \$397,300,000,000, annual rate, in the final quarter of 1955. This rate was \$40,000,000,000 above the low point recorded in 1954 after the substantial reductions in defense of 1953 and 1954.

Two months ago the Department of Commerce revised its figures upwards by about \$5,000,000,000, thus sending the GNP above the fabulous figure of \$400,000,000,000 by what I like to call "synthetic, statistical and ex post facto means." However, after the figures were thus revised above the \$400,000,000,000 level, the amount of our GNP did rise by \$5,000,000,000 more in the second quarter to establish the present record of \$408,500,000,000 for our gross national production.

The dynamic influence in the economy today, for

which we should be extremely grateful, is the \$8,000,000,000 rise in spending for new plant and equipment. These expenditures take the form of concrete, steel, tools, machines and steam generating plants which now extract 41 per cent of the full energy in coal. The innovations in steel mills have tripled the per worker product, albeit at a cost which makes these new steel plants five to eight times as expensive as the old.

DEMAND FOR CAPITAL INTENSE: As this rate of innovation marches forward, there is an intense demand for capital. We have seen electric utilities bonds sell with a 4 per cent coupon. We notice other securities having coupon rates from 4 to 5 per cent and some subordinated debentures recently were advertised with a 5½ per cent coupon rate. It is proper, however, that the interest rate should rise to equilibrate the supply of and demand for credit at this higher price. In other words, markets and lenders must put the three letters "N S F" to some of the less worthy projects. Any banker knows that those letters stand for "Not So Fast," though more finicky souls will insist that the words are "not sufficient funds." Thus the markets, in the tighter money situation we have today, must slow down the rate of plant expansion until a larger supply of funds is available to finance it.

Congressmen like to put such questions in the words: "Where's the money coming from?" Compared with a year ago, we need our supply of funds increased by at least \$8,000,000,000. Happily, savings this year are running substantially above a year ago, with a rate of \$21,200,000,000 compared to less than \$16,700,000,000 last year. It may be possible that we shall secure by next year \$4,000,000,000 more in personal savings. Depreciation charges of all industry are rising \$2,500,000,000 a year. Retained corporate earnings or "corporate savings" will probably rise \$1,500,000,000 this year. Thus, we do have sources of \$8,000,000,000 of increased loanable funds required for the long-term financing of proposed new plant and equipment.

In the meantime, commercial banks have supplied the needed credit to close the gap between 1) the excess of capital projects to be financed, and 2) the supply of funds presently available out of all savings. This, however, leads to loan and bank credit expansion which is inflationary, being piled upon an increase in the velocity of

circulation of money of about 3 per cent a year over the past ten years.

MODEST PRICE UPTREND: As a result, in the last six months we have had, and it has been modest, the first tendency for prices to rise in the last five and one-half years. The only index that has persistently increased during this period, the consumer price index, has risen 4 per cent, or about four-fifths of 1 per cent a year for five years. This is not too serious. The wholesale price level for all commodities is still below March, 1951, though it has advanced under the influence of rising metal prices in the last six months.

Most other price indices are down. Happily, however, agricultural prices, after sinking to their postwar low in December of last year, are higher this summer than a year earlier. This is the first year in which agricultural prices have ceased falling, except for the sharp rises as World War II ended (when Europe was starving) and as the Korean conflict started. Happily, too, the prices of hogs and of beef have recovered substantially. The price of beef is unusually strong and the price of hogs has been standing practically at parity. Because of bad weather in Europe last winter and spring and in the recent harvest, grains, too, have been firm and strong.

Though we may seem able to solve the demand for funds within a year by enlarging the supply of all savings, I suspect the demand for funds will stubbornly refuse to level off. Instead, it will continue to grow. Industry knows altogether too many good methods whereby new machinery and equipment can be installed to take the place of the old at very substantial profit.

Roger Blough, the new chairman of the United States Steel Corp., at the annual stockholders' meeting last April, announced that U. S. Steel planned to spend no less than \$500,000,000 a year in the years ahead for new plant and equipment. It is highly significant that of this total expenditure \$150,000,000 was planned in order to enlarge capacity by 1,000,000 tons of steel a year for each of the next five years. The larger share of \$350,000,000 was planned to improve productivity and efficiency for the same amount of output. That can be done because the better machines are known today.

HOUSING CREDIT DILEMMA: In the area of housing, a very special problem prevails. The number of housing starts is down about 22 per cent from last year. Credit



ANN GIBBS of THE NATIONAL PROVISIONER bones up on the news before she is swamped with calls for variety of information.

has been more difficult to secure. Yet the national objective, heartily concurred in by President Eisenhower and his advisors and all of us, is that we shall build 1,100,000 houses a year. In the last month or so we have dropped modestly below the rate that will produce this figure. Thus, the problem becomes one of enlarging the flow of credit into housing while the banking system is restraining the expansion of its credit flows into financing business plant expansion. This is a real dilemma. I offer no solution which I think can be made manageable except "selective credit control" in favor of housing credit and in restraint of, modestly, bank credit for business plant expansion.

I expect the demand for funds for all capital purposes to remain so firm in the years ahead that we must develop a national spirit which will encourage savings and we must make riddance of some of the "spending" ideas which became prevalent in the '30s. If we can manage to finance, without inflation, the capital expenditures and the increased housing as planned, we should be able to lift our national productivity by 4 per cent a year. This is worth all our best efforts to control credit so that we do not fail with the bad result that instead we lift the price level by 4 per cent a year.

If we can finance capital improvements and lift productivity as I have suggested, the young worker of today can expect his earnings to double twice in his working lifetime without even adding to his earnings what most of them will earn by promotion, by advances and by the upgrading they will enjoy in the growing economy.

For 1957 the gross national product should reach a figure of \$420,000,000,000 before the year closes. If, however, this figure is reached by inflation, we should expect and deserve more vigorous credit restraint. Such restraint can hardly cause even a mild crisis because the commercial banks of the nation are today 50 per cent liquid in contrast to their liquidity of 23 per cent in 1929.

For 1967 we should attain a gross national product of \$565,000,000,000. It is this product which can lift the past year's average family income of \$5,520 to about \$7,000 in 1967. If this prediction is warmly enthusiastic, perhaps the coming winter can chill it off a little. But I remind you that in Vermont it is sometimes called "sugaring off," a term that refers to a certain sweetness produced only with winter's chill and snow.



CECIL E. POWELL, director, Chicago office, Tanners' Hide Bureau, stands beside hide exhibit, located outside Red Lacquer Room.



Fifty-Year Veterans

Veterans who entered the industry in 1906, the year the Institute was founded, were honored at a special awards luncheon commemorating the dual anniversary. John Krey introduced John Holmes of Swift & Company, the luncheon chairman.

YOU are about to witness one of the rarest coincidences at an AMI annual meeting, and it becomes my privilege as a carryover chairman from this morning's program to officiate.

John Holmes, our distinguished chairman of this afternoon's award luncheon and panel discussion program, is himself one of our honored 50-year veterans and therefore eligible at this golden anniversary meeting for the AMI's gold emblem award.

John Holmes, in brilliant fashion, exemplifies everything for which the 50-year award stands—trustworthy performance, whatever the job or the assignment, long and faithful service to his company, the industry and the general public and the exercise of good citizenship.

He is living proof, too, of the opportunity which our industry and the free enterprise of this country offer to those who will apply themselves.

Born in Ireland, he came to this country at the age of six with his widowed mother and a brother. Today, we honor him as a man who got his start in 1906 with Swift and Company as a messenger boy in the Chicago plant—a job that paid 10c an hour for a 60-hour week.

By 1912, through hard work and diligent study, he had advanced to superintendent of pork operations at the age of 22. In 1916, he was transferred to the general office provision department and three years later became assistant to G. F. Swift, then vice president in charge of pork operations. After eight years in that position, 37-



JOHN HOLMES



JOHN JURACEK



M. F. DUGAN



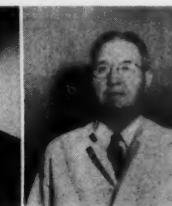
W. F. LOEST



J. T. TAYLOR



P. C. KNOFF



A. KAMINSKI



TERRY BARLOW



J. E. KURTZ



W. SCHULTZ



J. G. MYERS



JOHN OLTEAN



G. HOERTER



J. O'CONNELL



JOHN PLUTA



H. CASSIDY



W. H. MEYER



V. BROUSSE



T. GIBBONS



W. ROCHAREK



J. ZUBRICKY



E. D. RICHARD



W. PETERSON



M. SCHULZ



L. FAULKNER



S. NICKOLOFF



MORRIS NOE



C. A. RICHARD

year old John Holmes succeeded G. F. Swift as vice president of pork operations.

He became a director of the company in 1932 and in 1937 was elected president. In 1955, he succeeded H. H. Swift as chairman of the board.

It is my honor and privilege to present Mr. Holmes with this gold 50-year service emblem on behalf of the American Meat Institute. With this emblem, we salute you and your assembled fellow 50-year veterans.

CHAIRMAN JOHN HOLMES: Thank you for those very, very kind remarks. As chairman of this luncheon meeting, I am doubly honored in receiving this award and being asked to present it to our other 50-year veterans.

LOUIS C. ADAMS, Armour and Company, Kansas City, Kans., has been head butcher buyer for the past 35 years and has been with Armour since 1912. Adams entered the industry in 1905 as a yard man for the old Fowler Packing Co.

MOSE ADLER, Armour and Company, Pittsburgh, was retired in 1956. He was head of sausage manu-

facture and sales for 22 years. His entire service has been with Armour. Adler claims that the only real difference in the sausage business today is the development of more sanitary methods of making it, and more rigid government inspection.

TERRY BARLOW, Armour and Company, Grand Forks, N. D., has been dropping hides since 1941. Bar-

This year, this badge of honor for half a century of loyalty and service to the meat industry and to the public welfare is being presented by the American Meat Institute to a total of 72 50-year veterans.

Thirty-three of these veterans have done us the high honor of coming to our golden anniversary meeting so that we may meet them face to face and present their pins in person. Those here today represent a total of more than 1,600 years of service and devotion to the industry.

Brief sketches of the industry background of each of these veterans begin in the adjoining column. Photos of most of the men also appear.

low started in the meat packing business in 1906 at the age of 12 with John Morrell & Co., and he served with an infantry unit during the first World War.

JOSHUA W. BENNER, Colonial Provision Co., Inc., Boston, has been vice president since 1947 and with Colonial since 1923. Benner started as a bundle boy, wrapping meat for



S. RABINOWITZ



E. ROBICHAUX



FRANK McCOY



SAVO RUDICH



O. McKIRCHY



A. FROELICH



JOHN TENNEY



JACOB JACOBS



J. W. BENNER



F. A. HADEL



C. KLAUHN



JAMES GEORGE



L. C. ADAMS



MINNIE RUSCH



F. G. HOLST



OTTO WEBER



P. A. KOENIG



ARTHUR MOORE



W. R. BROWN



J. T. WALSH



H. N. O'BURN



L. E. FEELEY



J. THORESON



R. WILLIAMS



A. K. STONE



J. E. WILSON



J. KIMLICKA



J. E. NELSON

the Warren Beef Co., during 1900.

WILLIAM R. BROWN, The Wm. Schludenberg-T. J. Kurdle Co., Baltimore, has been a salesman with the company since 1929. Brown entered the industry in 1905, when he obtained a job with Swift & Company as sausage linker and packer.

VALSIN BROUSSE, SR., Arabi Packing Co., Inc., Arabi, La., a co-founder and president of the company, also is the head cattle buyer for Dixie Packing Co., Inc., Arabi. Brousse entered the industry at the age of 16 as a cattle order buyer, and he later founded a drayage business for delivery of dressed meats.

HENRY A. CASSIDY, Swift & Company, New York City, is an accountant whose entire service has been with Swift. Cassidy has been employed in the beef, provisions and canned foods departments.

WILLIAM CHAPPELL, Armour and Company, Chicago, has been employed in the box factory since 1906. Chappell's first job was as a saw boy working in the box factory of the company.

M. F. DUGAN, Geo. A. Hormel & Co., Austin, Minn., was retired as treasurer and director in January, 1956. His entire service has been with Hormel. Dugan started with Hormel in 1906 on the loading dock. He also served as secretary-treasurer of the Hormel Foundation since its inception in 1941.

JOHN J. FALCK, Oswald and Hess Co., Pittsburgh, has worked for 51 years for two meat packing firms in Pittsburgh. He was with William Zoller Co. for 29 years and then went to Oswald and Hess where he has been a butcher and maintenance worker for 22 years.

L. U. FAULKNER, The Rath Packing Co., Kansas City, Mo., has been a salesman since 1952. He had prior service with Rath starting in 1934. Faulkner's future plans include continuing to sell meat for Rath.

LOUIS E. FEELEY, Geo. A. Hormel & Co., Austin, Minn., has been a foreman, car icing, for the past 36 years. His entire service has been with Hormel. Feeley joined the company in 1904 at the age of 14.

FRED FORREST, Armour and Company, Omaha, is now a header, beef dressing. He has been with Armour



C. SHAPPELLE

R. L. KLINCK

since 1908. He worked at the Armour Fort Worth plant before being employed at the Omaha plant.

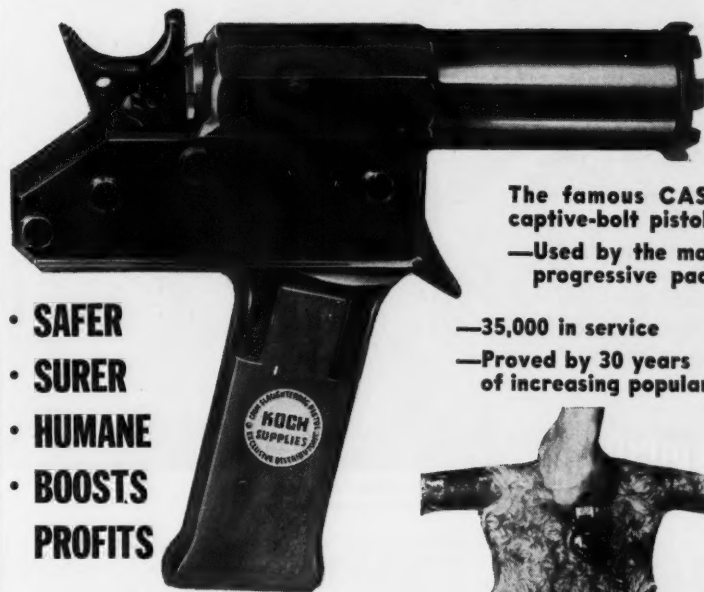
AUGUST FROELICH, Eastern Mar-

ket Sausage Co., Detroit, is president of the company and was co-founder of the parent company in 1906. A native of Germany, Froelich came to this country at the age of 19 and started in the industry in his uncle's butcher shop.

JAMES GEORGE, Hygrade Food Products Corp., New York City, has been a box puller, watch force, since 1938, and has service with Kingan Inc., starting in 1906. George is a native of Macedonia.

THOMAS P. GIBBONS, The Cud-

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ahy Packing Co., Omaha, was retired in 1952 as vice president. His entire service has been with Cudahy. Gibbons was vice president in charge of the by-products sales division of the company and is nationally known in the by-products trade.

FRANK A. HADEL, Swift & Company, Kansas City, Kans., has been in the beef casing department since 1912. His entire service has been with Swift.

GEORGE L. HOERTER, Armour and Company, Chicago, has been in trade relations for the past ten years, and with Armour since 1912. Hoerter started in the industry in 1905 with Louisville Packing Co. His career with Armour has included a term as assistant manager in the Chicago plant casings department.

JOHN HOLMES, Swift & Company, Chicago, who has been chairman of the board since 1955, has spent his entire service with Swift, starting as a messenger boy in 1906. Holmes came to this country from Belfast, Ireland, at the age of six.

FRED G. HOLST, Swift & Company, Chicago, is head of the banking department. His entire service has been with Swift. Holst started with the company in 1906 in the account sales department.

JACOB JACOBS, The Cincinnati Butchers' Supply Co., Cincinnati, has been in charge of an assembly department for the past 30 years. His entire service has been with the company, starting in 1901.

JOHN JURACEK, Hunter Packing Co., East St. Louis, Ill., has been foreman, beef boning department, since 1945. He had prior service with Hunter-acquired companies starting in 1906. Juracek entered the industry in 1904 at the National Stock Yards (Ill.) plant of Swift & Company.

ANDREW KAMINSKI, Scott Petersen & Co., Chicago, has been a head sausage stuffer since 1952. Kaminski entered the industry in 1904 with Agar Packing Co. and later was sausage foreman with Oscar Mayer & Co., Inc.

P. J. KEANE, Armour and Company, Sioux City, Iowa, is a steamfitter whose entire service has been with Armour. Keane began his ca-

reer in the industry at the Armour
Sioux City plant in 1906.

WILLIAM L. KIMLICKA, Geo. A. Hormel & Co., Austin, Minn., has been a foreman, pigs feet canning, since 1916. His entire service has been with Hormel. He started work with the firm at the age of 13 in the fresh sausage making department.

CONRAD H. KLAUHN, Swift & Company, South St. Joseph, Mo., has been in charge of the departmental accounting division since 1930. His entire service has been with Swift. Klawuhn started work at the Swift South St. Joseph plant as a messenger boy.

RAYMOND L. KLINCK, Klinck & Schaller, Inc., Buffalo, N. Y., was a co-founder of company in 1921 and now serves as treasurer. Klinck started work for C. Klinck Packing Co. at the East Buffalo Stockyards in 1906.

RALPH J. KLINER, Oswald and Hess Co., Pittsburgh, started to work in meat packing in 1906. He spent 11 years in the retail end and 39 years in the wholesale end of the business. He is a truck driver and has been with Oswald and Hess for 29 years.

P. C. KNOPF, Geo. A. Hormel & Co., Austin, Minn., was retired in 1956 as assistant treasurer. His entire service has been with Hormel. Knopf started work with the company in 1906 in the invoice department. He served as manager of the claims department for many years.

PAUL A. KOENIG, Armour and Company, South St. Joseph, Mo., has been head calf buyer since 1923. He had prior service with Armour and with Armour-acquired companies, starting in 1906.

JOHN EDWARD KURTZ, Krey Packing Co., St. Louis, has put in his entire service with this company. He joined the Krey organization in 1906 as a wagon loader.

W. F. LOEST, SR., Hygrade Food Products Corp., New York City, is general bookkeeper and assistant office manager. He has service with Kingan Inc., starting in 1906. Loest has been active in the credit union affairs for many years and served as the secretary-treasurer of the credit union for this branch of the firm.

FRANK MCCOY, Swift & Company, South St. Paul, Minn., is a meat cutter, cattle dressing department. His entire service has been with Swift.

ORRIN J. MCKIRCHY, SR., Tobin Packing Co., Inc., Rochester, N. Y., is in charge of Ft. Dodge (Iowa) division records of Tobin Packing Co. He has served in various accounting capacities for the company. McKirchy entered the industry in 1906 with the S. & S. Company, later absorbed by Wilson & Co.

WALTER H. MEYER, Walter Meyer's Sausage Co., Ironwood, Mich., was a co-founder of the company in 1920 and has been sole owner since 1928. He is still active in the operation of the company's two plants. Meyer entered the industry in 1906 at the age of 14.

J. G. MYERS, Modern Maid Food Products, Inc., Jamaica, N. Y., has been a meat specialist, breeding division, since 1945. He entered the industry in 1905 as an order boy, and he worked for various meat



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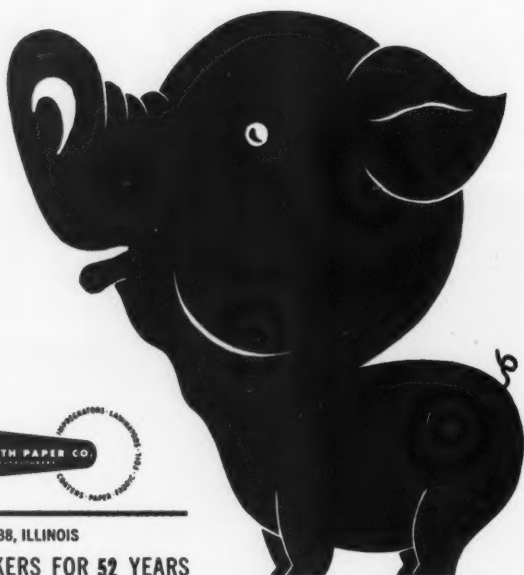


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packing firms before going to Modern Maid Food Products.

ARTHUR MOORE, Swift-Canadian Co., Ltd., Toronto, a beef butcher, has been with the company since 1923. He had prior service with Swift starting in 1904. Moore entered the industry in England in 1904 before going to Canada.

JOSEPH E. NELSON, Packing House By-Products Co., Chicago, has been manager of the feed department since 1951. Nelson was employed by Armour and Company until 1951.

STEVE NICKOLOFF, Hygrade Food Products Corp., New York City, has been night smoker, smoked meats department, Kingan Inc., for 50 years. A native of Macedonia, Nickoloff entered the industry in 1906.

MORRIS NOE, Superior Meat Products Inc., Gary, Ind., is president and was founder of the company in 1919. Noe entered the sausage industry in 1906 with Kingan Inc., Indianapolis, and he also has worked for Agar Packing Co., Inc., Chicago.

HUGH N. OBURN, The Fred Dold & Sons Packing Co., Wichita, Kans., was retired as vice president in 1954.

JOSEPH F. O'CONNELL, Hygrade Food Products Corp., New York City, has been supervisor, shipping and receiving departments, for the past 24 years, and has service with Kingan Inc., starting in 1906. His father, two brothers and two sons also are or have been employees of Kingan Inc.

JOHN OLTEAN, Hygrade Food Products Corp., New York City, has been foreman, curing division, for the past 20 years and has been with Kingan Inc., since 1906. His wife, his daughter and a brother also are employed by Kingan at present.

JOHN E. PECKHAM, Armour and Company (Winslow Bros. & Smith Co.), Boston, was retired in 1956 as a shipper. His entire service has been with this company. He started work in the Norwood (Mass.) glue department.

WILLIAM E. PETERSON, Geo. A. Hormel & Co., Austin, Minn., is a son of Hormel's first employee, George Peterson. He has been timekeeper clerk, hog kill department,

since 1931 and has spent his entire service with Hormel.

DAVID PINCUS, Hygrade Food Products Corp., Miami, Fla., is the night superintendent. Pincus entered the meat packing industry in 1905 as a beef lugger with Omaha City Beef Co. of Philadelphia.

JOHN PLUTA, The Cudahy Packing Co., Omaha, has been foreman, sheep and hog casing departments, since 1923 and has been with Cudahy since 1907.

SIDNEY H. RABINOWITZ, Colonial Provision Co., Inc., Boston, is president and was founder of the company in 1918. Among many other activities, Rabinowitz was one of the original founders of Brandeis University.

F. M. RAVESCROFT, Armour and Company, Chicago, is in the general office and has spent his entire service with Armour, starting in 1905. Part of Ravenscroft's activity has included working with government contracts for Armour.

MAURICE REYNS, Armour and

Company (Reyns & Maurel, Paris, France), joined Armour at Antwerp in 1906. As Armour's agent in France, Reyns has devoted himself to the sale of Armour products overseas for more than 50 years.

CHESTER A. RICHARD, C. E. Richard & Sons, Inc., Muscatine, Iowa, is vice president and has spent his entire service with the company. He will receive the AMI gold service award from Paul E. Welk, superintendent of the company, on November 6.

ELMUS D. RICHARD, C. E. Richard & Sons, Inc., Muscatine, Iowa, is president and has spent his entire service with the company. With his brother, Chester A., three other brothers and his father, C. E. Richard, Elmus Richard entered the meat packing business in 1906.

EMILE ROBICHAUX, L. A. Frey & Sons, Inc., New Orleans, La., has been an operator, engine room, since 1949, and has been with Frey since 1919. Robichaux started in the industry selling sausage in 1906.

WILLIAM A. ROCHAREK, Wilson

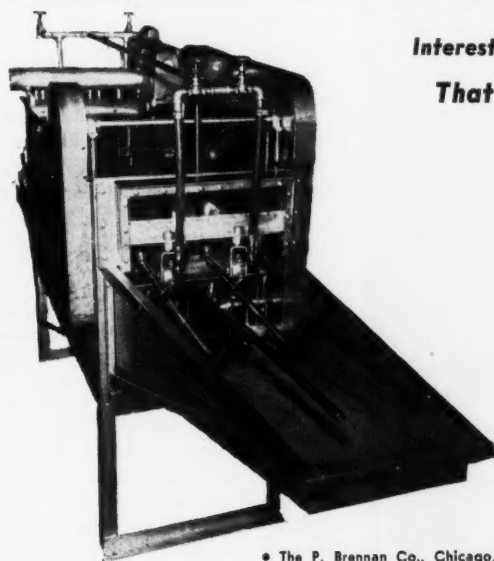
& Co., Inc., Cedar Rapids, Iowa, was retired from the box factory in 1955. His entire service was with Wilson.

GEORGE M. RODINA, Swift & Company, Kansas City, Mo., has been employed by the Cudahy Packing Co. and Wilson & Co., Inc., in addition to his service with Swift & Company. He entered the industry in 1906.

SAVO RUDICH, Scott Petersen & Co., Chicago, Ill., was retired in 1956, after serving as a ham boner for 18 years. He is the first employee of this company to be retired.

MRS. MINNIE RUSCH, Jones Dairy Farm, Fort Atkinson, Wis., retired in 1956 as forewoman in charge of all women employes for 44 years. Her entire service has been with Jones Dairy Farm, under four generations of the family.

W. J. SCHULTZ, The Cudahy Packing Co., North Salt Lake, Utah, retired from the mechanical department in 1956. He has been with Cudahy since 1912. He began his



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- The Val Decker Packing Co., Piqua, Ohio
- John Engelhorn & Sons, Inc., Newark, N. J.
- Henry Fischer Packing Co., Louisville, Ky.
- Little Rock Packing Co., Little Rock, Arkansas
- Louisville Provision Co., Louisville, Ky.
- H. H. Meyer Co., Cincinnati, Ohio
- The Rath Packing Co., Waterloo, Ia.
- Tobin Packing Co., Inc., Rochester, N. Y.
- Wilson & Co., Cedar Rapids, Ia.
- Cudahy Bros., Cudahy, Wisc.

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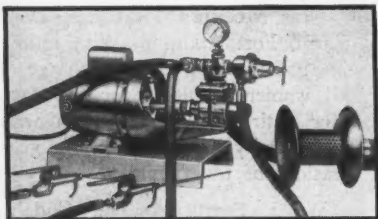
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career in the industry in 1906 with Armour and Company in Omaha.

MARTIN SCHULZ, Fred Usinger, Inc.; Milwaukee, is a meat boner. Schulz began his career in meat packing in Germany and started to work for Frank and Co. in Milwaukee after coming to the U. S. in 1922.

CHARLES L. SHAPPELLE, The E. Kahn's Sons Co., Cincinnati, has been with the firm since 1919 and was with a Kahn's-acquired company, beginning in 1906.

ANDREW K. STONE, Peet Packing Co., Bay City, Mich., is chief sausage maker. He had prior service with Peet starting in 1928. Stone began his career in the industry in 1906 in Raab, Hungary, and came to this country in 1911.

J. T. TAYLOR, Swift & Company, Chicago, has been district sales superintendent since 1936. Taylor has been employed in the beef department and the contract and institution department as well as being a successful sales manager for Swift.

JOHN TENNEY, Armour and Company, Chicago, has been operating engineer for the past 46 years. His entire service has been with Armour. He began working at the Armour Chicago plant in 1906.

JOHN THORESON, Elliott Packing Co., Duluth, Minn., has been in charge of beef sales for the past 15 years and has been with Elliott since 1934. Thoreson started work in 1903 delivering meat with a horse and wagon for the old S. & S. Beef Co.

JAMES T. WALSH, Swift & Company, (J. P. Squire), Cambridge, Mass., is in the mail department. His entire service has been with this company.

OTTO WEBER, Stahl-Meyer, Inc., New York City, has been vice president and buying manager since 1932 and with the company since 1917. Weber began working in 1899 at the age of 15 for his father in Brooklyn, N. Y.

RAYMOND T. WILLIAMS, E. G. James Co., Chicago, has been a partner in charge of the by-products division since 1926. Williams started working with Swift & Company in 1904, and he also was associated with Cudahy Brothers Co., Cudahy, Wis.

JOHN E. WILSON, Packing House

By-Products Co., Chicago, has been a broker since 1951. Wilson has been employed by three major meat packing firms, beginning with Armour and Company in 1906.

FRED WOODS, Armour and Company, Ltd., London, England, joined the Liverpool Branch in 1906 and has spent 50 years selling Armour products in England.

JOHN ZUBRICKY, Agar Packing Co., Inc., Chicago, has been retired after 14½ years with the company as ham boner. Zubricky is a 52-year veteran of the industry. He started in 1904 at the age of 18.

Frozen Meats Earn Big Volume, Processor Says

Big dollar volume and consumer acceptance of frozen meats are definite facts, Leonard Berkowitz, general manager of L. B. Darling Co., Worcester, Mass., told the New York State Food Merchants Association's annual convention at Kiamasha Lake, N. Y. His topic was "Do



L. BERKOWITZ

Frosted Meats Have a Place in Your Supermarket?"

Berkowitz said that stores carrying the Darling line of frozen meats have been turning over a volume of \$50 to \$200 per lineal foot of freezer cabinet space every week. Repeat sales are "more than encouraging" and point to continuous growth, he reported.

"This is not a new line developed for the sole interest of the processor but a step forward toward a new way of merchandising with lower costs, less speculation and a guaranteed dollar return," he said.

Berkowitz urged retailers and distributors to be realistic about their markups and not price the frozen meat out of business. The markup on frozen meat, he said, should be below fresh meat because handling costs 7 to 10 per cent less.

Western Beef Promotion

The Home Economists in Business, well known group of Southern California women, was presented with choice New York strip steaks by the Western Beef Industry, San Francisco, during a meeting at the Circle J Ranch in Newhall, Calif.

AMI Gets "Grand Award" For Last Year's Pork Push

The American Meat Institute has received from the American Society of Association Executives the 1956 "Grand Award," in recognition of pro-



GRAND AWARD plaque is accepted on behalf of the AMI by J. Russell Ives (left) from A. Boyd Campbell.

motional efforts carried on by the AMI on behalf of pork last year.

As all associated with the industry recall, record meat production last year brought heavy pressure against pork which was marketed in the winter months. Pork product prices fell precipitously and, as a consequence, it was feared that many hog raisers might contemplate a severe reduction in output for coming years. The meat packing industry requires near capac-

ity volume to operate effectively.

To help forestall or reduce such a cutback in production, the Institute set up a program, largely financed by special funds, to induce a greater demand for pork by the American people. The Institute expended nearly \$1,000,000 in a campaign which carried the message on pork in all media from the farm to the retail store and finally into the homes of the nation.

Announcement of the award was made at the 37th annual meeting of the American Society of Association Executives in New York. Judging was based on the most significant contribution to trade associations, industries, members and the public.

The presentation was made by A. Boyd Campbell, chairman of the board of the Chamber of Commerce of the United States, and the award was accepted on behalf of the meat packers' association by J. Russell Ives, associate director of the AMI department of marketing.

Will Choose 'Man of Year'

Henry Schacht, KNBC farm director, has been appointed chairman of the livestock award committee of the San Francisco Chamber of Commerce. Twenty committee members, all state leaders in the livestock industry, will select California's "Livestock Man of the Year," who will receive an award from Littlefield during the Grand National Livestock Exposition, Horse Show and Rodeo.



THE NATIONAL Live Stock and Meat Board this year again is spotlighting lard through its unique lard sculpture displays at fairs and livestock shows. The display has been attracting thousands of viewers from all walks of life. This year the Board's lard piglets are on parade. There are two fife players, a majorette, three buglers, two snare drum players and a bass drum player. The bass drum carries the words: "Lard—All American Shortening." Besides the piglets, the lard sculpture display includes a 30-in. lard model of a meat inspector and a large reproduction of the seal of the federal meat inspection service's 50th anniversary. Frank Dutt, Meat Board sculptor, prepares each display individually at the scene of the exhibit.

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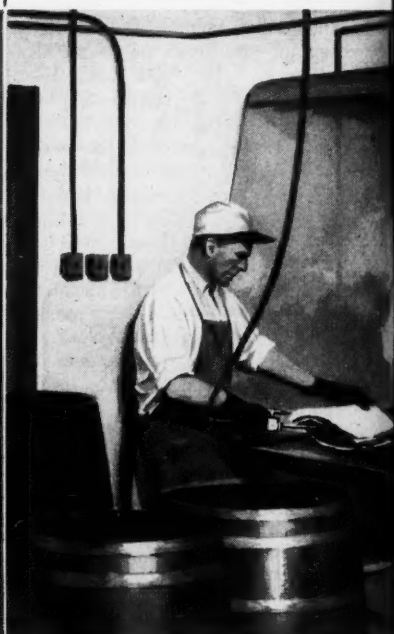
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The Meat Trail...



NEW EMBLEM being given to members by Livestock Conservation, Inc., Chicago, as part of drive to broaden participation in its fight against handling losses is displayed by Dudley Wallace, LCI public relations director. The organization hopes to enroll truckers, order buyers and smaller packers. Anyone now may join Livestock Conservation, Inc., for a nominal contribution.

PLANTS

Orders for "early spring delivery" of more than \$300,000 worth of packinghouse equipment have been placed by Nova Scotia Co-operative Abattoir, Ltd., Halifax, N. S., according to Leslie R. Fair and Associates of Halifax, architect for the new \$1,500,000 plant to be built on the shores of Bedford Basin. The firm said construction of the plant is expected to be started soon and be completed in time for receipt of the equipment early next spring.

The defunct CK Packing Co., Salina, Kans., was purchased at a sheriff's auction recently by JACK BEVERLY, SR., and his son, JACK, JR. Their winning bid was \$20,500. The senior Beverly is owner of Beverly Wholesale Meat and Locker Plant and part-owner of Beverly-Wilson Livestock Co., both of Salina. He said the CK plant was bought as an investment.

Marburger Abattoir has been established three miles south of Peru, Ind., by JOHN MARBURGER, a Peru grocer. The new firm will specialize in the processing and sale of meats for home freezers. Marburger said the plant will employ 12 persons and kill about 100 head of cattle a week.

Bright Foods, Inc., Turlock, Calif., a newly-organized company, plans to pack frozen meat and fruit pies. The plant will be adjacent to the Turlock Refrigerating Co., which will handle

freezing and storage of the products. The new firm expects to concentrate on private label and institutional business at its outset, according to CALVIN BRIGHT, general manager.

AUBREY EARLS has sold his Whole Hog Sausage Co., Portageville, Mo., to W. W. BRUNDIGE, who had been operating the business under a lease.

JOBS

RAMEY MINTER, head of the Wilson & Co. beef department at Oklahoma City since 1944, has been named manager of the Wilson plant at Denver. A 32-year company veteran, he joined the firm in the accounting department at Oklahoma City in 1924. Succeeding Minter as head of the Oklahoma City beef department is A. G. CLIFTON, who has been with the company for more than 30 years.

Armour and Company has appointed A. J. SULLIVAN as lamb division manager and D. G. KOENIG as veal division manager. Both are newly-created positions in the company's Chicago general office. Sullivan formerly was general manager of the Armour plant at Green Bay, Wis. Koenig, also a former general manager at Green Bay, had been operations manager of beef, lamb and veal. Sullivan joined Armour in 1920 and has



A. SULLIVAN



D. KOENIG

had extensive experience in livestock procurement and sales in Chicago and Fort Worth. Koenig started with Armour in 1932 and has been a livestock buyer at the Chicago, Kansas City, Fort Worth, Atlanta, and St. Paul plants.

VIRGIL THOMPSON has been named city sales manager of Greenlee Packing Co., Sioux Falls, S. D., in an exchange of jobs with AL WOOD, who takes over Thompson's former duties as head of the company's cooling and shipping activities.

HAROLD FRIEND has been appointed manager of the Toronto plant traffic department of Canada Packers.

TRAILMARKS

RICHARD E. HALE, an employee since 1931 of John McKenzie Packing Co., Inc., Burlington, Vt., has received an American Meat Institute silver service emblem for having worked 25 years in the meat industry. The presentation was made by JOHN J. MCKENZIE, firm president.

IVAN ALLEN, JR., president of the Georgia State Chamber of Commerce, addressed the semi-annual meeting of the Georgia Independent Meat Packers Association in Macon. A. C. BRUNER, secretary of East Tennessee Packing Co., Knoxville, was in charge of a cost accounting session.

MILLIS L. PEET, vice president of Peet Packing Co., Chesaning, Mich., was featured with the firm's airplane in recent Piper Aircraft advertisements in *Time* and *Newsweek* magazines. Peet uses the plane extensively to cover Michigan in his business activities.

FRED J. KEMPSTER has resigned as secretary-treasurer of Hull & Dillon Packing Co., Pittsburg, Kans., after more than 30 years with the firm.

DEATHS

ARTHUR M. BRIDGES, 75, retired Swift & Company auditor, was stricken with a fatal heart attack at his home in St. Joseph, Mo. He retired ten years ago after serving 44 years as a traveling auditor for the Swift branch house accounting division, working out of Chicago.

JAMES CALDWELL, 48, who helped organize Caldwell Sausage Co., Toronto, 20 years ago, is dead. He served as president of the company for the past five years. Survivors include the widow, PHYLLIS; a daughter, CAROL, and two sons, THOMAS and JAMES.

RUE W. McNAY, 61, president of the National Livestock Exchange in 1953 and 1954 passed away recently. He had been associated with the Woodson and Fennwald Livestock Commission Co. at National Stock Yards, Ill., since 1920 and was vice president and secretary of the company for the past eight years.

MARK FELDMAN, president of the Austral-American Trading Corp., San Francisco, died unexpectedly at the age of 56. He was the resident agent for the Meat and Allied Trade Federation of Australia.

ALL MEAT... output, exports, imports, stocks

Meat Output Up Sharply Last Week

Sharply higher slaughter of all classes of livestock last week raised meat production for the period to the largest volume in several months. Inspected packers turned out a total of 448,000,000 lbs. of meat for an 11 per cent increase over the previous week's 405,000,000 lbs. and an 8 per cent rise over the 416,000,000 lbs. for the same 1955 week. Cattle slaughter was up 12 per cent for the week and 13 per cent over a year ago, while that of hogs, up 6 per cent for the week, was a shade smaller than a year ago. Calf kill was the largest since November 1947 and the sheep kill the largest since about March 1954. Estimated slaughter and meat production by classes appear below as follows:

Week Ended	BEEF		PORK (Excl. lard)	
	Number M's	Production Mil. lbs.	Number M's	Production Mil. lbs.
Oct. 6, 1956	434	230.5	1,342	178.4
Sept. 29, 1956	388	206.0	1,265	166.9
Oct. 8, 1955	384	205.1	1,347	176.9

Week Ended	VEAL		LAMB AND MUTTON		TOTAL MEAT PROD. Mil. lbs.
	Number M's	Production Mil. lbs.	Number M's	Production Mil. lbs.	
Oct. 6, 1956	191	24.4	331	14.6	448
Sept. 29, 1956	152	19.5	288	12.7	405
Oct. 8, 1955	165	20.7	295	13.1	416

1950-56 HIGH WEEK'S KILL: Cattle, 439,880; Hogs, 1,859,215; Calves, 185,965; Sheep and Lambs, 369,561.

1950-56 LOW WEEK'S KILL: Cattle, 154,814; Hogs, 641,000; Calves, 55,241; Sheep and Lambs, 137,677.

Week Ended	AVERAGE WEIGHTS AND YIELD (LBS.)			
	CATTLE		HOGS	
	Live	Dressed	Live	Dressed
Oct. 6, 1956	965	531	230	133
Sept. 29, 1956	965	531	229	132
Oct. 8, 1955	978	534	227	131

Week Ended	CALVES		SHEEP AND LAMBS		LARD PROD. Per cwt.
	Live	Dressed	Live	Dressed	
Oct. 6, 1956	230	128	93	44	40.2*
Sept. 29, 1956	230	128	92	44	39.0*
Oct. 8, 1955	227	125	94	44	41.4

*Estimated by the Provisioner

More Beef From Corn Belt In Prospect For Next Year

A decided upswing in beef production for next year appears assured on the basis of the renewed interest in cattle feeding. Corn Belt farmers and feedlot operators received a total of 580,083 head of stocker and feeder cattle and calves in August. This was more than double the 264,300 bovines received during the month last year. The July-August total of 806,572 head was almost double the 433,261 received last year.

An increase in lamb and mutton production is in prospect for later this year and early next year on the basis of ovines moving into the Corn Belt. Receipts of 360,893 feeder sheep and lambs into the area in August was about 90,000 more than last year and the run of 512,214 for the two months was about 95,000 more than for the same 1955 period.

Cuba Pork Imports Large; Beef Supplies Sufficient

Cuba's imports of pork in 1956 will probably exceed the record quantities received in 1955 by a considerable margin. Stimulated by low prices, imports during the first half of 1956 were one-fifth larger than a year earlier. During April-June, Cuban imports of cured pork reached 9,000,000 lbs., 10 per cent more than a year earlier. All but a small portion were from the United States.

Commercial hog slaughter in Cuba may increase slightly this year, with most of the increase coming from large-scale farms using improved hogs. During the second quarter of 1956, Cuban breeders imported 200 head of Duroc and Poland China hogs from the United States.

Cattle numbers are increasing and cattle slaughter has increased slightly this year. There has been little demand for high-quality beef from the United States.

MEAT PRODUCTS GRADED

Total meats and meat products, graded or certified as complying with specifications of the U. S. Department of Agriculture in 000 lbs:

	Aug. 1956	July 1956	Aug. 1955
Beef	567,352	578,031	552,267
Veal and calf	34,400	29,367	31,591
Lamb, yearling, and mutton	19,330	15,762	19,755
Totals	621,082	623,160	603,613
All other meats, lard, Grand totals	19,642	17,854	14,192
	640,724	641,014	617,805

Cattle, Hog Slaughter at New Highs

Cattle slaughter during the first eight months this year was 6 per cent larger than a year ago and at an all-time high for the period, establishing new monthly records through July this year. Hog

slaughter for the eight months this year was 17 per cent larger than a year ago and largest for a similar period except for the year of 1944. August hog slaughter was largest of record for the month.

Federally inspected slaughter in the United States, by months, 1945-56
CATTLE (Thousand head)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.-
1945 ..	1,284	1,149	1,213	979	1,045	1,060	1,050	1,202	1,358	1,584	1,408	1,118	14,538
1946 ..	1,012	1,015	904	715	676	451	1,239	1,240	360	1,103	1,348	1,352	11,413
1947 ..	1,403	1,143	1,228	1,203	1,264	1,207	1,274	1,217	1,407	1,497	1,337	1,346	15,524
1948 ..	1,312	977	986	899	877	1,109	1,046	1,086	1,178	1,176	1,151	1,197	12,994
1949 ..	1,126	994	1,102	996	1,025	1,095	1,090	1,232	1,224	1,156	1,116	1,064	13,222
1950 ..	1,103	939	1,082	959	1,075	1,066	1,070	1,154	1,196	1,169	1,151	1,110	13,103
1951 ..	1,160	887	963	894	986	787	920	1,064	956	1,140	1,122	908	11,879
1952 ..	1,096	985	927	938	1,009	966	1,100	1,135	1,215	1,390	1,151	1,252	13,165
1953 ..	1,313	1,170	1,299	1,371	1,345	1,450	1,498	1,494	1,644	1,782	1,609	1,653	17,629
1954 ..	1,541	1,302	1,511	1,417	1,439	1,570	1,622	1,635	1,638	1,616	1,602	1,583	18,476
1955 ..	1,221	1,313	1,254	1,432	1,560	1,641	1,524	1,797	1,752	1,693	1,662	1,617	19,055
1956 ..	1,697	1,484	1,566	1,545	1,646	1,679	1,728	1,774					

HOGS (Thousand head)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.-
1945 ..	5,299	3,267	3,474	3,066	3,375	3,382	2,752	2,206	1,922	2,330	4,350	5,537	40,960
1946 ..	4,911	4,698	3,636	3,858	4,149	4,316	3,883	2,843	438	3,114	5,434	5,133	44,304
1947 ..	5,844	3,897	3,406	3,616	3,831	3,653	3,455	2,731	2,948	3,978	5,501	6,254	49,116
1948 ..	5,223	3,746	3,574	3,343	3,562	4,235	3,644	2,440	2,836	4,098	5,425	6,089	47,615
1949 ..	5,377	4,050	4,315	3,804	3,721	3,745	3,165	3,417	3,579	4,959	6,003	6,477	53,032
1950 ..	5,844	4,191	5,020	4,316	4,238	4,154	3,314	3,626	4,137	5,102	6,144	6,777	58,964
1951 ..	6,584	4,159	5,117	4,989	4,952	4,700	3,826	4,236	4,398	5,651	6,531	6,912	62,054
1952 ..	6,835	5,779	5,776	5,281	4,482	4,259	3,641	3,592	4,290	5,492	5,772	7,251	62,451
1953 ..	6,267	4,550	4,962	4,325	3,643	3,697	3,276	3,396	4,059	4,994	5,540	5,194	53,813
1954 ..	4,712	3,883	4,554	3,853	3,389	3,453	3,325	3,852	4,743	5,178	5,841	6,119	62,894
1955 ..	5,519	4,638	5,491	4,472	4,164	3,713	3,428	4,475	5,144	6,144	6,857	7,324	61,370
1956 ..	6,706	5,922	6,327	5,252	4,875	4,326	4,190	4,559					

PROCESSED MEATS . . . SUPPLIES

August Meat Production Above July; Shade Under Same Month Of Last Year

MEAT production in commercial slaughter plants totaled 2,135,000,000 lbs. in August. This was 3 per cent above the 2,079,000,000 lbs. produced in July, but 1 per cent below the 2,158,000,000 lbs. produced in August 1955. Estimated meat production includes slaughter in federally inspected plants and other wholesale and retail plants, but excludes farm slaughter.

Meat output during the first eight months of this year totaled 17,453,000,000 lbs., 8 per cent larger than the 16,089,000,000 lbs. produced during the corresponding period a year ago. Comparing the eight-month period this year with that of last year, beef production was up 9 per cent, pork up 10 per cent, veal up 2 per cent, while lamb and mutton production was down 2 per cent. Lard output for the January-August period totaled 1,687,000,000 lbs., 13 per cent larger than the 1,502,000,000 lbs. in the corresponding period a year earlier. For the eight months, cattle slaughter was up 4 per cent, hog slaughter up 15 per cent, calf slaughter was down 1 per cent and sheep and lamb slaughter down less than 1 per cent.

August beef production totaled 1,202,000,000 lbs., 3,000,000 lbs. above the July output of 1,199,000,000 lbs., but 2 per cent smaller than the 1,228,000,000 lbs. in August last year. The number of cattle slaughtered in August was estimated at

2,373,700 head, 4 per cent above the July estimate of 2,291,200, but 2 per cent less than the August 1955 estimate of 2,417,400 head. The average live weight of slaughter cattle for the month was 928 lbs.—the same as a year earlier.

Veal production for the month totaled 150,000,000 lbs., 14 per cent above July output of 132,000,000 lbs. and 5 per cent above the 143,000,000 lbs. a year earlier. Calf slaughter in August, estimated at 1,110,500 head, was 13 per cent greater than the 981,600 head slaughtered in July and 1 per cent greater than the 1,094,100 head slaughtered in August a year ago.

August pork production totaled 721,000,000 lbs., 4 per cent larger than the July output of 691,000,000 lbs. and compared with 727,000,000 lbs. in August last year. The number of hogs killed in August was estimated at 5,525,000 head, 9 per cent above the July kill of 5,070,000 and 2 per cent above the August 1955 kill of 5,422,600 head. The average live weight of hogs slaughtered in August was 230 lbs., 5 lbs. lighter than a year earlier.

Lard production totaled 172,000,000 lbs. in August, the same as August a year ago, but 1 per cent more than July this year. Lard rendered per 100 lbs. of live hog was 13.6 lbs., compared with 13.5 lbs. in August 1955.

Mutton and lamb output in August

totalled 62,000,000 lbs., the same as than the 57,000,000 lbs. in July this August last year, but 9 per cent larger year. Sheep and lamb slaughter totaled 1,427,000 head, 9 per cent above the 1,314,300 head killed in July and 1 per cent above the August 1955 number of 1,407,200 head.

USDA Hamburger Buy Last Week Totalled 6,656,000 Lbs.

The U. S. Department of Agriculture last week purchased 6,656,000 lbs. of frozen hamburger under a program to assist cattle producers. Purchases through last week since buying began on September 28 totaled 9,884,000 lbs. at a cost of about \$3,400,000.

Purchases last week were at prices ranging from 31.97¢ to 35.00¢ per lb., f.o.b. plants. Offers were received from 42 bidders who offered a total of 10,331,000 lbs. of meat. Delivery of the hamburger purchased will be during the period October 29 to November 24.

Israel Beef Specifications

Specifications for the Kosher beef forequarters, livers and tongues for which the government of Israel has secured a purchase authorization from the United States are available at the government of Israel Supply Mission, 250 W. 57th St., New York 19, N. Y. The mission is requesting offers to sell product, from the U. S. trade. Offers are due not later than 5 p.m. October 22 and must be valid until November 15, 1956.

DOMESTIC SAUSAGE

(L.C.I. prices)

Pork sausage, hog cas.	45	@ 49
Pork saus., bulk, 1-lb.	37½	@ 40
Pork sausage, sheep cas.		
1-lb. pkge.	53	@ 56
Pork sausage, sheep cas.		
5-6-lb. pkge.	52	@ 54
Frankfurters, sheep cas.	51	@ 54½
Frankfurters, skinless	40	@ 44
Bologna (ring)	38	@ 48
Bologna, artificial cas.	34½	@ 38
Smoked liver, hog bungs.	44	@ 49
Smoked liver, art. cas.	39	@ 42
Polish sausage, smoked	47	@ 54
New Eng. lunch, spec.	60	@ 68
Olive loaf	41	@ 46½
Tongue and Blood	39	@ 42½
Pepper loaf	42	@ 54½
Pickle & Pimiento loaf	39½	@ 44

SEEDS AND HERBS

(L.C.I. prices)

	Whole	Ground
Caraway seed	26	31
Coriander seed	26	31
Mustard seed:		
fancy	23	
yellow Amer.	17	
Oregano	34	
Coriander		
Morocco, No. 1	21	25
Marjoram		
French	60	65
Sage, Dalmatian		
No. 1	58	66

DRY SAUSAGE

(L.C.I. prices)

Cervelat, ch. hog bungs	89@92
Thuringer	45@50
Farmer	71@75
Holsteiner	73@75
B. C. Salami	79@82
Pepperoni	67@71
Genoa style salami, ch.	94@97
Cooked salami	44@47
Sicilian	80@84
Goteborg	71@74
Mortadella	49@52

SPICES

(Basis, Chgo., orig. bbls., bags, bales)

	Whole	Ground
Allspice, prime	96	1.06
Resifted	1.03	1.13
Chili, powder	47	
Chili, pepper	41	
Cloves, Zanzibar	63	69
Ginger, Jam., unbl.	95	1.02
Mace, fancy Banda	3.25	3.50
West Indies	3.36	
East Indies	3.10	
Mustard, flour, fancy	37	
No. 1	33	
West India nutmeg	1.30	
Paprika, Spanish	51	
Pepper, cayenne	54	
Red, No. 1	54	
White	52	56
Black	42	46

SAUSAGE CASINGS

(L.C.I. prices quoted to manu-
facturers of sausage)

Beef Casings:	
Rounds—	
Export, narrow,	32/35 mm. 1.10@1.35
Export, med., 35/38	90@1.10
Export, med. wide,	38/40 90@1.35
Export, wide, 40/44	1.30@1.50
Export, jumbo, 44/up.	2.00@2.40
Domestic, regular	60@ 85
Domestic, wide	75@1.10
No. 1 weasands,	24 inch/up 12@ 16
No. 2 weas., 22 inch/up	8@ 14
Middles—	
Sewing, 1½@2½ in.	1.25@1.65
Select, wide, 2½ in.	1.85@2.10
Extra select,	2¼@2½ in. 2.25@2.60
Bungs, exp. No. 1	25@ 34
Bungs, domestic	18@ 25
Dried or salt bladders,	
pieces:	
8-10 in. wide, flat.	9@ 10
10-12 in. wide, flat.	9@ 11
12-15 in. wide, flat.	16@ 19
Pork Casings:	
Extra narrow, 29 mm.	
and down	4.00@4.15
Narrow,	
29@32 mm.	3.75@4.15
Medium,	
32@35 mm.	2.25@2.50
Spec. medium,	
35@38 mm.	1.80@2.50

Hog Bungs—

Sow	55@ 60
Export, 34 in. cut	47@ 50
Large prime, 34 in.	34@ 36
Med. prime, 34 in.	26@ 27
Small prime	16@ 20
Middles, 1 per set,	55@ 60
exp off	
Sheep Casings (per hank):	
26/28 mm.	5.40@6.00
24/26 mm.	6.00@6.25
22/24 mm.	4.90@5.25
20/22 mm.	4.00@4.40
18/20 mm.	3.00@3.25
16/18 mm.	2.60@2.90

CURING MATERIALS

Nitrite of soda, in 400-lb.	
bbls., del. or f.o.b. Chgo.	\$11.35
Pure rfd., gran. nitrate of	
soda	5.05
Pure rfd. powdered nitrate	
of soda	8.65
Salt, paper sacked, f.o.b.	
Chgo., gran. carlots, ton.	29.40
Rock salt, ton in 100-lb.	
bags, f.o.b. whse., Chgo.	27.40
Sugar—	
Raw, 96 basis, f.o.b. N.Y.	6.20
Refined standard cane	
gran. basis (Chgo.)	8.50
Packers, curing sugar, 100	
lb. bags, f.o.b. Reserve,	
La., less 2%	8.15
Dextrose (less 20%):	
Cerelease, regular	7.49
Ex-Warehouse, Chicago	7.59

BEEF-VEAL-LAMB... Chicago and outside

CHICAGO

October 9, 1956

WHOLESALE FRESH MEATS CARCASS BEEF

Steer:	
Prime, 600/800	47
Choice, 500/600	43½
Choice, 600/700	43½ @ 44
Choice, 700/800	44 @ 44½
Good, 500/600	35½
Good, 600/700	35½
Bull	23½
Commercial cow	25 @ 25½
Canner-cutter cow	19½

PRIMAL BEEF CUTS

Prime:	
Hindqtrs., 5/800	N.Q.
Foreqtrs., 5/800	N.Q.
Rounds, all wts.	50
Td. loins, 50/70 (cl)	49 @ 50
Sq. chucks, 70/90	37 @ 38
Arm chucks, 80/110	36
Briskets (cl)	36
Ribs, 25/35 (cl)	72 @ 75
Navels, No. 1	14
Flanks, rough No. 1	15
Choice:	
Hindqtrs., 5/800	51 @ 52
Foreqtrs., 5/800	38
Rounds, all wts.	46 @ 48
Td. loins, 50/70 (cl)	75 @ 78
Sq. chucks, 70/90	37 @ 38
Arm chucks, 80/110	36
Briskets (cl)	36
Ribs, 25/35 (cl)	64 @ 66
Navels, No. 1	14
Flanks, rough No. 1	15
Good (all wts.):	
Rounds	43 @ 45
Sq. cut chucks	35 @ 36
Briskets	35 @ 36
Ribs	50 @ 56
Loins	52 @ 59

COW & BULL TENDERLOINS

Fresh J/L	C-O grade	From C/L
59	Cow, 3/dn.	57 @ 59
75 @ 77	Cow, 3/4	64 @ 66
80 @ 83	Cow, 4/5	69 @ 71
90 @ 95	Cow, 5/6	79 @ 81
90 @ 95	Bull, 5/6	81 @ 83

BEEF HAM SETS

Insides, 12/up	39
Outsides, 8/up	37
Knuckles, 7½/up	39

CARCASS MUTTON

Choice, 70/down	14 @ 15
Good, 70/down	13 @ 14

PACIFIC COAST WHOLESALE MEAT PRICES

	Los Angeles	San Francisco	No. Portland
FRESH BEEF (Carcass):	Oct. 9	Oct. 9	Oct. 9
STEER:			
Choice:			
500-600 lbs.	\$39.50 @ 42.00	\$41.00 @ 43.00	\$42.00 @ 44.00
600-700 lbs.	39.00 @ 41.00	38.00 @ 41.00	41.50 @ 44.00
Good:			
500-600 lbs.	35.00 @ 38.00	37.00 @ 38.00	39.00 @ 42.00
600-700 lbs.	34.00 @ 36.00	35.00 @ 37.00	37.00 @ 41.00
Standard:			
350-600 lbs.	31.00 @ 35.00	31.00 @ 36.00	30.00 @ 38.00
COW:			
Standard, all wts.	32.00 @ 35.00	26.00 @ 28.00	None quoted
Commercial, all wts.	23.00 @ 25.00	23.00 @ 26.00	22.00 @ 27.00
Utility, all wts.	22.00 @ 24.00	21.00 @ 23.00	20.00 @ 22.00
Canner-Cutter	None quoted	15.00 @ 20.00	15.00 @ 25.00
Bull, util. & com'l	27.00 @ 30.00	None quoted	None quoted
FRESH CALF	(Skin-off)	(Skin-off)	(Skin-off)
Choice:			
200 lbs. down	35.00 @ 38.00	35.00 @ 37.00	32.00 @ 35.00
Good:			
200 lbs. down	34.00 @ 37.00	33.00 @ 35.00	31.00 @ 33.00
LAMB (Carcass):			
Prime:			
45-55 lbs.	41.00 @ 43.00	43.00 @ 45.00	41.00 @ 44.00
55-65 lbs.	40.00 @ 42.00	41.00 @ 43.00	40.00 @ 42.00
Choice:			
45-55 lbs.	41.00 @ 43.00	41.00 @ 44.00	41.00 @ 44.00
55-65 lbs.	40.00 @ 42.00	40.00 @ 40.00	40.00 @ 42.00
Good, all wts.	35.00 @ 41.00	35.00 @ 40.00	37.00 @ 41.00
MUTTON (EWE):			
Choice, 70 lbs. down	18.00 @ 20.00	None quoted	11.00 @ 14.00
Good, 70 lbs. down	18.00 @ 20.00	None quoted	12.00 @ 15.00

BEEF PRODUCTS

Tongues, No. 1, 100's	27
Hearts, reg., 100's	12½
Livers, reg., 35/50's	23½
Lips, scalded, 100's	11
Lips, unsalted, 100's	8½
Tripe, scalded, 100's	7½
Tripe, cooked, 100's	8½
Melts, 100's	7½
Lungs, 100's	7½
Udders, 100's	4½

FANCY MEATS

(L.C.I. prices)	
Beef tongues, corned	40
Veal breads,	
under 12 oz.	82
12 oz./up	90
Calf tongues, 1 lb./dn.	23
Oxtails, under ½ lb.	16
Ox tails, over ½ lbs.	17

BEEF SAUS. MATERIALS FRESH

Canner-cutter cow	29 @ 29½
meat, barrels	
Bullmeat, boneless,	33
barrels	
Beef trim., 75/85,	22½ @ 23
barrels	
Beef trim., 85/90,	26½
barrels	
Boneless chucks,	29½
barrels	
Beef cheek meat,	22½
trimmed, barrels	
Shank meat, bbls.	37
Beef head meat, bbls.	17½
Veal trim., boneless,	
barrels	27 @ 27½

VEAL—SKIN OFF

(L.C.I. prices)	
(Carcass)	
Prime, 90/120	\$41.00 @ 42.00
Prime, 120/150	40.00 @ 41.00
Choice, 90/120	36.00 @ 39.00
Choice, 120/150	36.00 @ 39.00
Good, 50/90	28.00 @ 32.00
Good, 90/120	33.00 @ 36.00
Good, 120/150	33.00 @ 36.00
Commercial, all wts.	24.00 @ 32.00

CARCASS LAMB

(L.C.I. prices)	
Prime, 35/45	45
Prime, 45/55	45
Prime, 55/65	45
Choice, 35/45	44 @ 45
Choice, 45/55	44 @ 45
Choice, 55/65	44 @ 45
Good, all wts.	40 @ 42

NEW YORK

October 9, 1956

WHOLESALE FRESH MEATS BEEF CUTS

Steer:	
(L.C.I.)	Western
Prime, carc., 6/700	\$51.00 @ 51.50
Prime, carc., 7/800	50.50 @ 51.00
Choice, carc., 6/700	44.50 @ 45.50
Choice, carc., 7/800	44.00 @ 44.50
Good carc., 6/700	37.00 @ 39.50
Good carc., 7/800	37.50 @ 38.00
Hinds, pr., 6/700	60.00 @ 64.00
Hinds, pr., 7/800	59.00 @ 63.00
Hinds, ch., 6/700	54.00 @ 57.00
Hinds, ch., 7/800	53.00 @ 57.00
Hinds, gd., 6/700	46.00 @ 50.00
Hinds, gd., 7/800	46.00 @ 48.00

BEEF CUTS

(L.C.I. prices, lb.)	
Prime steer:	City
Hindqtrs., 600/700	63 @ 65
Hindqtrs., 700/800	61 @ 63
Hindqtrs., 800/900	59 @ 60
Rounds, flank off.	51 @ 54
bone, flank off.	52 @ 55
Short loins, untrim.	96 @ 102
Short loins, trim.	1.22 @ 1.32
Flanks	17 @ 18
Ribs (7 bone cut)	70 @ 74
Arm chucks	38 @ 40
Briskets	37 @ 38
Plates	17 @ 18

Choice steer:	
Hindqtrs., 600/700	55 @ 58
Hindqtrs., 700/800	53 @ 57
Hindqtrs., 800/900	51 @ 55
Rounds, flank off.	49 @ 51
Rounds, diamond	
bone, flank off.	49 @ 52
Short loins, untrim.	75 @ 80
Short loins, trim.	98 @ 1.06
Flanks	16 @ 18
Ribs (7 bone cut)	60 @ 64
Arm chucks	37 @ 38
Briskets	35 @ 37
Plates	16 @ 17

N. Y. MEAT SUPPLIES

Receipts reported by the USDA Marketing Service, week ended Oct. 6, 1956, with comparisons:

STEERS AND HEIFERS: Carcasses	
Week ended Oct. 6	10,924
Week previous	12,520
COW:	
Week ended Oct. 6	1,770
Week previous	2,218
BULL:	
Week ended Oct. 6	527
Week previous	489
VEAL:	
Week ended Oct. 6	11,948
Week previous	14,711
LAMB:	
Week ended Oct. 6	10,793
Week previous	25,575
MUTTON:	
Week ended Oct. 6	848
Week previous	581
HOG AND PIG:	
Week ended Oct. 6	9,007
Week previous	10,389
PORK CUTS:	
Week ended Oct. 6	1,244,642
Week previous	1,816,454
BEEF CUTS:	
Week ended Oct. 6	513,840
Week previous	138,242
VEAL AND CALF CUTS:	
Week ended Oct. 6	2,886
Week previous	3,424
LAMB AND MUTTON:	
Week ended Oct. 6	28,747
Week previous	3,292
BEEF CURED:	
Week ended Oct. 6	14,234
Week previous	12,872
PORK CURED AND SMOKED:	
Week ended Oct. 6	121,710
Week previous	840

LOCAL SLAUGHTER

CATTLE	Head
Week ended Oct. 6	12,992
Week previous	9,446
CALVES:	
Week ended Oct. 6	13,416
Week previous	9,689

FANCY MEATS

(L.C.I. prices)	Lb.
Veal breads, 6/12 oz.	69
12 oz./up	90
Beef livers, selected	28
Beef kidneys	14
Oxtails, ¼ lb. frozen	12

LAMB

(L.C.I. carcass prices, cwt.)	
City	
Prime, 30/40	\$45.00 @ 47.00
Prime, 40/45	46.00 @ 50.00
Prime, 45/55	44.00 @ 47.00
Prime, 55/65	45.00 @ 48.00
Choice, 30/40	44.00 @ 46.00
Choice, 40/45	45.00 @ 49.00
Choice, 45/55	42.00 @ 46.00
Choice, 55/65	42.00 @ 45.00
Good, 30/40	42.00 @ 43.00
Good, 40/45	41.00 @ 42.00
Good, 45/55	39.00 @ 40.00
Western	
Prime, 45/55	\$40.00 @ 43.00
Prime, 45/55	41.00 @ 44.00
Prime, 55/65	41.00 @ 42.00
Choice, 45/55	40.00 @ 42.00
Choice, 55/65	40.00 @ 42.00
Good, 45/55	38.00 @ 39.00
Good, 45/55	38.00 @ 37.00

VEAL—SKIN OFF

(L.C.I. carcass prices)	
Western	
Prime, 90/120	\$42.00 @ 44.00
Choice, 90/120	34.00 @ 40.00
Good, 50/90	28.00 @ 30.00
Good, 90/120	32.00 @ 34.00
Com'l, 50/90	24.00 @ 29.00
Com'l, 90/120	23.00 @ 28.00
BUTCHER'S FAT	
Shop fat (cwt.)	\$1.50
Breast fat (cwt.)	2.25
Edible suet (cwt.)	2.50
Inedible suet (cwt.)	2.50

HOGS:

Week ended Oct. 6	55,354
Week previous	56,971

SHEEP:

Week ended Oct. 6	51,551
Week previous	32,966

COUNTRY DRESSED MEAT

VEAL	Carcasses
Week ended Oct. 6	7,318
Week previous	7,837
HOGS:	
Week ended Oct. 6	12
Week previous	8
LAMB AND MUTTON:	
Week ended Oct. 6	56
Week previous	56

PHILA. FRESH MEATS

Oct. 9, 1956

WESTERN DRESSED

STEER CARCASSES: (cwt.)	
Choice, 500/800	\$45.00 @ 47.00
Choice, 800/900	45.50 @ 47.00
Good, 500/800	39.50 @ 40.50
Hinds, choice	53.00 @ 57.00
Hinds, good	46.00 @ 49.00
Rounds, good	50.00 @ 53.00
Rounds, good	46.00 @ 49.00

COW:

Com'l, all wts.	28.00 @ 29.00
Utility, all wts.	24.00 @ 25.00

VEAL (SKIN OFF):

Choice, 90/120	38.00 @ 40.00
Choice, 120/150	38.00 @ 40.00
Good, 50/90	32.00 @ 34.00
Good, 90/120	33.00 @ 35.00
Good, 120/150	34.00 @ 36.00

LAMB:

Ch. & pr., 30/45	43.00 @ 45.00
Ch. & pr., 45/55	43.00 @ 45.00
Good, 30/45	37.00 @ 41.00
Good, 45/55	37.00 @ 41.00

LOCALLY DRESSED

STEER BEEF (lb.):	Choice	Good
Carc., 500/700	45 @ 48	38 @ 43
Carc., 700/800	45 @ 48	37 @ 42
Hinds, 500/700	55 @ 57	43 @ 48
Hinds, 700/800	53 @ 56	40 @ 47
Rounds, no flank	51 @ 54	42 @ 46
Hip rd. + flank	50 @ 53	43 @ 47
Full loin, untrim.	54 @ 58	44 @ 50
Short loin, untrim.	72 @ 78	65 @ 70
Ribs (7 bone)	44 @ 68	48 @ 52
Arm chucks	38 @ 41	33 @ 36
Briskets	38 @ 42	38 @ 42
Short plates	15 @ 18	15 @ 18

PORK AND LARD ... Chicago and outside

CHICAGO PROVISION MARKETS From The National Provisioner Daily Market Service

CASH PRICES

(Carlot basis, Chicago price zone, Oct. 10, 1956)

SKINNED HAMS

Fresh or F.F.A.	Frozen
38 1/2 10/12 38 1/2	
36 1/2 12/14 36 1/2	
36 1/2 14/16 36 1/2	
36 1/2 16/18 36 1/2	
37 1/2 18/20 37 1/2	
37 1/2 20/22 37 1/2	
37 1/2 22/24 37 1/2	
35 1/2 24/26 35 1/2	
34 1/2 25 up, 2's in. 34 1/2	

Ham quotations based on product conforming to Board of Trade definition regarding new trim effective January 9, 1956.

PICNICS

Fresh or F.F.A.	Frozen
21 1/2 4/8 21 1/2	
21 6/8 21	
21 1/2 8/10 21 1/2	
21 1/2 10/12 21 1/2	
20 1/2 12/14 20 1/2	
20 1/2 14/16 20 1/2	

FAT BACKS

Fresh or Frozen	Cured
10n 6/8 10 1/2n	
10n 8/10 10 1/2n	
12 1/2n 10/12 13 1/2n	
13 1/2n 12/14 14 1/2n	
14 1/2n 14/16 15 1/2n	
14 1/2n 16/18 15 1/2n	
14 1/2n 18/20 15 1/2n	
14 1/2n 20/22 15 1/2n	

BELLIES

Fresh or F.F.A.	Frozen
23 1/2n 6/8 23 1/2n	
22 1/2 8/10 22 1/2	
20 10/12 20	
19 1/2 12/14 19 1/2	
19 14/16 19	
19 16/18 19	
19n 18/20 19n	

Gr. Amn.	D.S. Clear
17 1/2 18/20 22 1/2n	
16 1/2 20/22 22 1/2n	
15 1/2 22/24 20 1/2n	
14 1/2 24/26 20 1/2n	
13 1/2 26/28 18n	
12 1/2 28/30 15 1/2n	

FRESH PORK CUTS

Job Lot	Car Lot
43 1/2 44 Loin, 12dn 43	
43 1/2 44 Loin, 12/16 43	
43 Loin, 16/20 42 1/2n	
41 1/2 Loin, 20 up 41	
35 Butts, 4/8 33 1/2n	
33 1/2 44 Butts, 8/12 32n	
33 1/2 34 Butts, 8 up 32n	
35 1/2 36 Ribs, 3/4dn 32	
26 1/2 28 Ribs, 3/5 25	
19 1/2 21 Ribs, 5up 16n	

OTHER CELLAR CUTS

Fresh or Frozen	Cured
13 1/2 Square Jowls unq.	
11 Jowl Butts, Loose 11 1/2	
12n Jowl Butts, Boxed unq.	

LARD FUTURES PRICES

NOTE: Add 1/4 to all price quotations ending in 2 or 7.

FRIDAY, OCT. 5, 1956

Open	High	Low	Close
Oct. 11.57	11.62	11.55	11.60b
Nov. 11.67	11.75	11.67	11.72n
Dec. 13.35	13.40	13.30	13.37a
Jan. 13.37	13.42	13.37	13.42
Mar. 13.50	13.50	13.47	13.50
May 13.72	13.72	13.67	13.67a

Sales: 4,800,000 lbs.
Open interest at close Thurs.
Oct. 4: Oct. 533, Nov. 1,226, Dec. 476, Jan. 128, and Mar. 160 lots.

MONDAY, OCT. 8, 1956

Open	High	Low	Close
Oct. 11.57	11.67	11.57	11.62b
Nov. 11.70	11.82	11.70	11.72b
Dec. 13.45	13.50	13.40	13.50a
Jan. 13.50	13.52	13.47	13.52a
Mar. 13.55	13.60	13.55	13.57a
May -57			13.67n

Sales: 10,440,000 lbs.
Open interest at close Fri., Oct. 5: Oct. 465, Nov. 1,146, Dec. 473, Jan. 128, Mar. 163, and May one lot.

TUESDAY, OCT. 9, 1956

Open	High	Low	Close
Oct. 11.62	11.67	11.57	11.57
Nov. 11.77	11.90	11.70	11.70a
Dec. 13.45	13.50	13.37	13.37
Jan. 13.52	13.52	13.42	13.42a
Mar.			13.55a
May -57			13.70b

Sales: 8,800,000 lbs.
Open interest at close Mon., Oct. 8: Oct. 439, Nov. 1,197, Dec. 476, Jan. 134, Mar. 167, and May one lot.

WEDNESDAY, OCT. 10, 1956

Open	High	Low	Close
Oct. 11.57	11.62	11.52	11.55b
Nov. 11.72	11.77	11.65	11.65b
Dec. 13.50	13.57	13.25	13.25
Jan. 13.40	13.40	13.35	13.35
Mar. 13.45	13.47	13.40	13.40a
May -57			13.60a

Sales: 6,960,000 lbs.
Open interest at close Tues., Oct. 9: Oct. 377, Nov. 1,225, Dec. 495, Jan. 134, Mar. 167, and May one lot.

THURSDAY, OCT. 11, 1956

Open	High	Low	Close
Oct. 11.55	11.65	11.55	11.65b
Nov. 11.85	11.70	11.62	11.70
Dec. 13.25	13.32	13.22	13.32a
Jan. 13.35	13.37	13.27	13.37a
Mar. 13.40	13.40	13.32	13.40a
May -57			13.55b

Sales: 5,000,000 lbs.
Open interest at close Wed., Oct. 10: Oct. 323, Nov. 1,244, Dec. 512, Jan. 138, Mar. 173, and May 1 lot.

CHGO. FRESH PORK AND PORK PRODUCTS

Oct. 9, 1956

(L.C.I. prices)	
Hams, skinned, 10/12 39 1/2	
Hams, skinned, 12/14 37 1/2	
Hams, skinned, 14/16 37 1/2	
Picnics, 4/6 lbs., loose 22 1/2	
Picnics, 6/8 lbs., loose 22	

(Job lots)

Pork loins, boneless 70 @ 72	
Shoulders, 16/dn., loose 29	
Pork livers 13 1/2 @ 14	
Tenderloins, fresh, 10's 82 @ 85	
Neck bones, bbls., loose 10 @ 11	
Ears, 30's 10	
Feet, s.c., bbls. 6	

CHGO. PORK SAUSAGE MATERIALS—FRESH

(To sausage manufacturers in job lots only)

Pork trim., guar. 40% 18	
Pork trim., guar. 50% 21	
Pork trim., 80% lean, bbls. 35	
Pork trim., 90% lean, bbls. 42 @ 44	
Pork head meat 22	
Pork cheek meat, trim., bbls. 27	

PACKERS' WHOLESALE LARD PRICES

Refined lard, tierces, f.o.b. Chicago \$15.75	
Refined lard, 50-lb. cartons, f.o.b. Chicago 15.25	
Kettle rendered tierces, f.o.b. Chicago 16.25	
Leaf, kettle rendered tierces, f.o.b. Chicago 16.75	
Lard flakes, f.o.b. Chicago 18.00	
Neutral tierces, f.o.b. Chicago 18.00	
Standard shortening, N. & S. (del.) 20.75	
Hydro shortening, N. & S. 21.75	

WEEK'S LARD PRICES

	P.S. or D.R.	P.S. or D.R.	Ref. in 50-lb.
	Cash	Loose this	
	Tierces (Open)	(Open)	
	(Bd. Trade)	(Mkt.)	
Oct. 5	11.60n	11.87 1/2n	14.00n
Oct. 6	11.60n	11.87 1/2n	14.00n
Oct. 7	11.62 1/2n	11.87 1/2n	13.75n
Oct. 8	11.57 1/2n	11.87 1/2n	13.75n
Oct. 9	11.55n	11.87 1/2n	13.75n
Oct. 10	11.55n	11.87 1/2n	13.75n
Oct. 11	11.65n	11.87 1/2n	13.75n

HOG VALUES DOWN MORE THIS WEEK

Markdowns in the market on fat pork were the main reasons for the further break in hog cut-out values this week. Live costs fell off some too, but not enough to offset the decline in fat pork products. Lean meat gained in price since last week.

	—150-220 lbs.—	—220-240 lbs.—	—240-270 lbs.—
	Value	Value	Value
	per cwt.	per cwt.	per cwt.
	live	live	live
Lean cuts	\$11.27	\$16.33	\$10.84
Fat cuts, lard	4.52	6.54	4.70
Ribs, trimms., etc.	1.78	2.58	1.61
Cost of hogs	\$15.97	\$16.27	\$16.19
Condemnation loss	.08	.08	.08
Handling, overhead	1.80	1.63	1.36
TOTAL COST	\$17.85	\$25.87	\$17.98
TOTAL VALUE	17.57	25.45	17.15
Cutting margin	\$.28	\$.42	\$.83
Margin last week	.40	.72	.56

PACIFIC COAST WHOLESALE PORK PRICES

	Los Angeles Oct. 9	San Francisco Oct. 9	No. Portland Oct. 9
FRESH PORK (Carcass) (Packer style)			
80-120 lbs., U.S. 1-3.	None quoted	None quoted	None quoted
120-170 lbs., U.S. 1-3.	\$28.00@31.50	None quoted	\$27.50@29.00

FRESH PORK CUTS, No. 1:

LOINS:			
8-10 lbs.	46.00@51.00	48.00@55.00	48.00@53.00
10-12 lbs.	46.00@51.00	48.00@55.00	48.00@53.00
12-16 lbs.	46.00@51.00	48.00@55.00	50.00@55.00

PICNICS: (Smoked)

4-8 lbs.	29.00@33.00	33.00@36.00	33.00@36.00
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HAMS, Skinned:

12-16 lbs.	45.00@52.00	49.00@54.00	48.00@52.00
16-18 lbs.	45.00@51.00	50.00@55.00	48.00@52.00

BACON "Dry" Cure No. 1:

6-8 lbs.	36.00@44.00	42.00@46.00	41.00@45.00
8-10 lbs.	35.00@43.00	40.00@44.00	39.00@43.00
10-12 lbs.	35.00@43.00	38.00@42.00	37.00@41.00

LARD, Refined:

1-lb. carton	17.00@19.50	20.00@21.00	18.00@18.50
50-lb. cartons & cans	16.00@19.00	18.00@20.00	None quoted
Tierces	15.25@18.50	17.00@19.00	13.00@17.00

N. Y. FRESH PORK CUTS

Oct. 9, 1956

(L.C.I. prices)	
Western	
Pork loins, 8/12 \$44.00@47.00	
Pork loins, 12/16 44.00@45.00	
Hams, sknd., 10/14 43.00@47.00	
Boston butts, 4/8 37.00@40.00	
Regular picnics, 4/8 27.00@30.00	
Spareribs, 3/dwn 37.00@41.00	
Pork trim., regular 22.00	
Pork trim., spec. 80% 38.00	

PHILA. FRESH PORK

Oct. 9, 1956

WESTERN DRESSED	
PORK CUTS—U.S. No. 1-3 lb.	
Reg. loins, trmd., 8/12 44@46	
Reg. loins, trmd., 12/16 44@46	
Butts, Boston, 4/8 36@38	
Spareribs, 3/dwn 38@40	

LOCALLY DRESSED

Pork loins, 8/12 46@49	
Pork loins, 12/16 46@49	
Bellies, 10/12 25@27	
Spareribs, 3/dwn 43@45	
Sk. hams, 10/12 42@46	
Sk. hams, 12/14 42@46	
Picnics, 4/8 29@31	
Boston Butts, 4/8 38@40	

HOG CORN RATIOS

The hog-corn ratio for barrows and gilts at Chicago for the week ended Oct. 6, 1956 was 11.1, the U. S. Department of Agriculture has reported. This ratio compared with the 10.7 ratio for the preceding week and 11.8 a year ago. These ratios were calculated on the basis of No. 3 yellow corn selling at \$1.474, \$1.569 and \$1.302 per bu. during the three periods, respectively.

BY-PRODUCTS . . . FATS AND OILS

BY-PRODUCTS MARKET

Wednesday, Oct. 10, 1956

BLOOD

Unground, per unit of ammonia
bulk 5.00@5.25m

DIGESTER FEED TANKAGE MATERIAL

Wet rendered, unground, loose:
Low test *6.00m
Med. test *5.75m
High test *5.50m
Liquid stick, tank cars *1.75

PACKINGHOUSE FEEDS

Carlots, ton
50% meat, bone scraps, bagged . . . 72.50@ 80.00
50% meat, bone scraps, bulk . . . 70.00@ 77.50
55% meat scraps, bagged 90.00
60% digester tankage, bagged . . . 75.00@ 80.00
60% digester tankage, bulk . . . 72.50@ 77.50
80% blood meal, bagged . . . 100.00@125.00
Steam bone meal, bagged
(Specially prepared) 85.00
60% steam bone meal, bagged . . . 70.00m

FERTILIZER MATERIALS

Feather tankage, ground,
per unit ammonia *4.50
Hoof meal, per unit ammonia . . . 5.25@5.50

DRY RENDERED TANKAGE

Low test, per unit prot. *1.35m
Med. test, per unit prot. *1.25@1.30m
High test, per unit prot. *1.20m

GELATINE AND GLUE STOCKS

Cwt.
Calf trimmings (limed) (glue) . . . 1.25@ 1.35
Hide trims, (green salted) (glue) . . 6.00@ 7.00
Cattle jaws, scraps and knuckles,
per ton 55.00@57.00
Pig skin scraps (edible) 6.50@ 7.00

ANIMAL HAIR

Winter coil dried, per ton *110.00@115.00
Summer coil dried, per ton 47.50@50.00
Cattle switches, per piece 3 1/4 @5
Winter processed, gray, lb. 21 1/2
Summer processed, gray, lb. 14 1/2

*Delivered, n—nominal.

TALLOW and GREASES

Wednesday, Oct. 10, 1956

The inedible tallow and grease market was very quiet late last week, with no material change pricewise. Special tallow sold at 6 1/2c, c.a.f. Chicago. Choice white grease, all hog, was bid at 7 1/2c, delivered New York, and held at 8c. Yellow grease was bid at 5 1/2c, c.a.f. Chicago. A few tanks of edible tallow sold at 11c f.o.b. outside points.

Bleachable fancy tallow sold on Friday at 7 1/4c, and prime tallow at 7c, c.a.f. Chicago. No. 2 tallow traded at 5 1/2c, Chicago basis. Low acid yellow grease was bid at 6 1/2c, c.a.f. New Orleans, and the same sold at 6 1/2c, c.a.f. East. Original fancy tallow was bid at 7 1/2c, c.a.f. New York. A tank of edible tallow sold at 11c, f.o.b. western point, and moving farther west. Indications of 5 3/4@6c, Chicago, were reported on yellow grease. Bleachable fancy tallow was bid at 7 1/2@7 1/2c, c.a.f. East.

The market was somewhat mixed on Monday, with reports of sales at

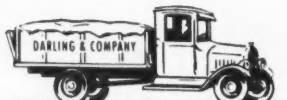
7 1/2c and 7 3/4c, c.a.f. Chicago, on bleachable fancy tallow. Bids of 7 1/4c were heard later. Special tallow and B-white grease were bid at 6 1/2c, Chicago. Choice white grease, all hog, sold early at 8c, c.a.f. East, and was later bid at 8 1/2c, with offerings held at 8 1/4c.

Bleachable fancy tallow was bid at 7 1/2c Chicago, on Tuesday, without trade. Edible tallow sold at 11 1/2c f.o.b. River, and at 11c f.o.b. North-western points, moving west. Additional offerings of edible tallow were priced at 11 1/4c f.o.b. River. Prime tallow sold at 6 1/2c, Chicago. Inquiry for yellow grease at 5 1/2c failed to find offerings. Choice white grease, all hog, was bid at 8c delivered East.

The market was generally unchanged at midweek, regarding buying interest, with only limited offerings showing. The eastern market was equally quiet, with indications of 7 1/2c, 7 3/4c and 7 1/4c for bleachable fancy tallow.

TALLOW: Wednesday's quotations: edible tallow, 11 1/2c, f.o.b. River, and 11 1/2c Chicago basis;

THE TEST OF TIME . . .



75

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Phone: VALley 1-2726

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OR CONTACT YOUR LOCAL DARLING & COMPANY REPRESENTATIVE

original fancy tallow, 7½¢; bleachable fancy tallow, 7½¢@7¼¢; prime tallow, 6¾¢@7¢; special tallow, 6½¢; No. 1 tallow, 6¢@6½¢; and No. 2 tallow, 5½¢.

GREASES: Wednesday's quotations: Choice white grease, not all hog, 7¼¢; B-white grease, 6½¢; yellow grease, 5¼¢; house grease, 5¼¢; brown grease, 5¢. Choice white grease, all hog, was bid at 8¢, c.a.f. East.

EASTERN BY-PRODUCTS

New York, Oct. 10, 1956

Dried blood was quoted Wednesday at \$5 nominal per unit of ammonia. Low test wet rendered tankage was listed at \$5.50 nominal per unit of ammonia and dry rendered tankage was priced at \$1.15 nominal per unit of protein.

N.Y. COTTONSEED OIL FUTURES

FRIDAY, OCT. 5, 1956

	Open	High	Low	Close	Prev. close
Oct.	14.80b	.....	.....	14.91b	14.88b
Dec.	14.93	.....	.....	14.97b	15.00
Jan.	14.85b	.....	.....	14.90b	14.90b
Mar.	15.28b	.....	.....	15.26	15.33
May	15.38	.....	.....	15.36	15.40
July	15.32b	.....	.....	15.34	15.37
Sept.	15.05b	.....	.....	15.10b	15.22
Oct.	14.85b	.....	.....	14.95b	15.02b
Dec. ....	.....	.....	.....	14.65b	14.80b

Sales: 219 lots.

MONDAY, OCT. 8, 1956

	Open	High	Low	Close	Prev. close
Oct.	15.00	15.50	15.00	15.48b	14.91b
Dec.	15.05b	15.62	15.12	15.62	14.97b
Jan.	15.00b	.....	.....	15.50b	14.90b
Mar.	15.30b	15.81	15.35	15.80	15.26
May	15.45	15.86	15.45	15.85	15.36
July	15.40b	15.87	15.44	15.87	15.34
Sept.	15.30b	15.48	15.45	15.60b	15.10b
Oct.	15.10b	.....	.....	15.45b	14.95b
Dec. ....	.....	.....	.....	15.25b	14.65b

Sales: 447 lots.

TUESDAY, OCT. 9, 1956

	Open	High	Low	Close	Prev. close
Oct.	15.50	15.50	15.35	15.44	15.48b
Dec.	15.60	15.62	15.36	15.62	15.62
Jan.	15.46	15.50	15.46	15.50b	15.50b
Mar.	15.73	15.73	15.54	15.73	15.80
May	15.75b	15.83	15.65	15.83	15.85
July	15.60b	15.79	15.65	15.79	15.87
Sept.	15.53b	.....	.....	15.63b	15.66b
Oct.	15.40b	.....	.....	15.40b	15.45b
Dec. ....	.....	.....	.....	15.35b	15.25b

Sales: 401 lots.

WEDNESDAY, OCT. 10, 1956

	Open	High	Low	Close	Prev. close
Oct.	15.51b	15.69	15.55	15.69b	15.44
Dec.	15.71b	15.92	15.70	15.85	15.62
Jan.	15.60b	.....	.....	15.75b	15.50b
Mar.	15.88	15.95	15.77	15.87	15.73
May	15.96	15.98	15.82	15.94	15.83
July	15.87b	15.95	15.85	15.80b	15.79
Sept.	15.70b	15.75	15.75	15.75	15.63b
Oct.	15.40b	.....	.....	15.50b	15.40b
Dec. ....	.....	.....	.....	15.45b	15.35b

Sales: 494 lots.

VEGETABLE OILS

Wednesday, Oct. 10, 1956

Crude cottonseed oil, f.o.b.	13¼n
Valley	13¼n
Southeast	13¼n
Texas	13¼n
Corn oil in tanks, f.o.b. mills	13¼pd
Soybean oil, Decatur	12¼pd
Peanut oil, f.o.b. mills	15¼pd
Coconut oil, f.o.b. Pacific Coast	10¼n
Cottonseed foots:	
Midwest and West Coast	1¼@ 1¼
East	1¼@ 1¼

OLEOMARGARINE

Wednesday, Oct. 10, 1956

White domestic vegetable	26
Yellow quarters	28
Milk churned pastry	25
Water churned pastry	24

OLEO OILS

Wednesday, Oct. 10, 1956

Prime oleo stearine (black barrels)	12¼@13¼
Extra oleo oil (drums)	18¼
Prime oleo oil (drums)	18

n—nominal. a—asked. b—bid. pd—paid.

HIDES AND SKINS

Hide prices decline ½¢ to 1¢ in big packer market—Small packer 50-lb. average sold at 12½¢ in Midwest—Northern light calfskins and River kip and overweights sold lower.—Shearlings continued mixed, with quality again a deciding price factor.

CHICAGO

PACKER HIDES: Hide prices depreciated on Monday of the new week, and most selections traded ½¢ off last week's levels. Colorado steers sold at 10¢, Chicago light native steers at 15½¢, Northern branded cows at 11½¢, heavy native cows at 13½¢, Chicago light native cows at 16¢. River light native cows were bid at 16½¢, but unsold.

On Tuesday, some selections continued to trade lower. Heavy native cows, all points, sold at 13¢. River heavy native steers sold at 13¢. River light native cows sold at 16½¢, St. Louis production at 16¢, and Northern at 14½¢. A car of butt-branded steers brought 11¢. Colorado steers sold at 10¢ and heavy Texas steers at 11¢. Northern branded cows sold at 11½¢ and light native steers traded at 15¢. Late in the day, branded cows sold lower at 11¢ for Northern and 12¢ for Southwesterns.

The hide market at midweek was less active, with only a few selections trading at the declines registered earlier.

SMALL PACKER AND COUNTRY HIDES: The 50-lb. average sold early in the week at 13¢ but later sales were made at 12½¢ in the Midwest. The 60-lb. average sold at 10½¢ in the Midwest. No trading of small packer hides was heard out of the Southwest, and it was thought that sellers would have to lower asking prices considerably before activity could be resumed. Country 50-lb. average straight locker butchers were quoted at 10½¢@11¢, while renderers were mostly nominal at 9½¢.

CALFSKINS AND KIPSKINS: The kipskin market lost ground price-wise late last week when River kip and overweights sold at 29½¢ and 26½¢, respectively. On Monday this week, River overweights traded again at 26½¢. Light calfskins also sold late last week at 39¢. Early midweek, St. Paul light calfskins sold at 37½¢ and River lights sold at 32½¢. River overweight kipskins sold at 26½¢ and Southwestern kip brought 29¢.

SHEEPSKINS: In additional trad-

ing last week, a car of medium quality No. 1 shearlings and No. 2's sold at 2.50 and 1.70, respectively. This week, a truck of No. 1 shearlings and fall clips sold at 2.50 and 3.00, medium quality involved. A car of good quality was offered at 3.10 on the No. 1's and 3.60 on the fall clips. Supplies of No. 2 and No. 3 shearlings were limited, which made for a nominal quotation of 1.75@1.90 on the No. 2's and .75@.85 on the No. 3's. Dry pelts were mostly nominal at .25. Pickled skins were quoted at 10.00 on lambs and 12.00 on sheep.

CHICAGO HIDE QUOTATIONS

PACKER HIDES

	Week ended Oct. 10, 1956	Cor. Week 1955
Lgt. native steers	13 @13¼n	14½@15n
Hvy. nat. steers	13 @13¼n	15n
Ex. lgt. nat. steers	19n	.....
Butt-branded steers	11n	11½n
Colorado steers	10n	11n
Hvy. Texas steers	11n	11½n
Light Texas steers	12¼n	.....
Ex. lgt. Texas steers	16n	15½n
Heavy native cows	13	13
Light nat. cows	14½@16½	13½@14½
Branded cows	11 @12	11 @11½n
Native bulls	9½@10n	10n
Branded bulls	8½@ 9n	9n
Calfskins:		
Northern, 10/15	50n	47½n
10 lbs./down	37½	52½n
Kips, Nor., nat., 15/25	29¼n	34n

SMALL PACKER HIDES

STEERS AND COWS:		
60 lbs. and over	10¼n	9¼n
50 lbs.	12¼n	11 @11½n

SMALL PACKER SKINS

Calfskins, all wts.	35 @36n	35 @40n
Kipskins, all wts.	24 @25n	23 @25n

SHEEPSKINS

No. 1	2.50@ 3.00	2.75
Dry Pelts	25n	21@22
Horsehides, untrim.	9.50@10.00n	7.75@8.00n

N. Y. HIDE FUTURES

FRIDAY, OCT. 5, 1956

	Open	High	Low	Close
Oct.	12.10b	12.30	12.20	12.16b-22a
Jan.	12.40b	12.40	12.30	12.32 31
Apr.	12.60b	12.60	12.56	12.56
July	12.90b	12.80	12.80	12.75b-85a
Oct.	13.15b	13.05	13.05	13.00b-05a
Jan.	13.35	.....	.....	13.15b-25a

Sales: 58 lots.

MONDAY, OCT. 8, 1956

Oct.	11.90b	.....	.....	11.85b-12.15
Jan.	12.20-15	12.20	11.95	12.16
Apr.	12.35b	12.45	12.30	12.45
July	12.55b	12.70	12.70	12.70b-80a
Oct.	12.91	12.91	12.91	12.90b-13.05a
Jan.	13.00b	13.10	13.10	13.10b-20a

Sales: 79 lots.

TUESDAY, OCT. 9, 1956

Oct.	11.75b	11.90	11.90	11.80b-12.00n
Jan.	12.08	12.18	12.05	12.07b-12a
Apr.	12.30b	12.45	12.33	12.40-42
July	12.60b	.....	.....	12.63b-70a
Oct.	12.80b	12.88	12.85	12.83b-93a
Jan.	13.00b	.....	.....	12.98b-13.13n

Sales: 57 lots.

WEDNESDAY, OCT. 10, 1956

Oct.	11.80-75	11.90	11.75	11.90
Jan.	12.13-08	12.13	12.00	12.10b-14a
Apr.	12.32b	12.40	12.30	14.40
July	12.55b	12.55	12.55	12.60b-70n
Oct.	12.83	12.83	12.80	12.85b-90a
Jan.	12.95b	.....	.....	13.00b-10n

Sales: 58 lots.

THURSDAY, OCT. 11, 1956

Oct.	11.75-74	11.87	11.74	11.70b-95a
Jan.	12.07-08	12.10	12.06	12.10b-13a
Apr.	12.30b	12.40	12.40	12.35b-43a
July	12.50b	12.78	12.75	12.60b-70a
Oct.	12.75b	13.00	12.85	12.85b-93a
Jan.	12.90b	13.20	13.00	12.90b-13.07a

Sales: 38 lots.

LIVESTOCK MARKETS...Weekly Review

California Litter Chalks Up Poland China Meat Record

A litter of Poland China pigs owned by Donald E. Anderson of Sanger, Calif., has established the most outstanding record of any litter to date in the breed's meat type certification program.

The litter was farrowed Feb. 4, 1956. There were 10 pigs farrowed, and the eight raised weighed 583 lbs. at 56 days of age, for an average of nearly 73 lbs. each.

To become a certified meat type litter, two pigs must be submitted for slaughter test from a production registry litter. At 138 days of age, the two pigs averaged 215 lbs. each. They carried only 1.3 in. of back fat and had a loin-eye of over 5½ sq. in. The loin-eye measurement is a cross-section of the large muscle in the pork chop. It is taken at the 10th rib.

The standards established by the swine industry for meat type certification require a pig to weigh at least 200 lbs. when 180 days of age. These pigs weighed 215 lbs. at 129 days. At 215 lbs., they are permitted to carry as much as 1.7 in. of back fat. These had 1.3 in. And at their weight, they needed only to have 4 sq. in. of loin-eye, but they are averaged 5.54 sq. in. of loin-eye.

ST. LOUIS HOGS IN SEPT.

Hog receipts, weights and range of prices at the St. Louis NSY were reported by H. L. Sparks & Co., as follows:

	September 1956	1955
Hogs received	240,365	202,302
Highest top price	\$17.25	\$17.25
Lowest top price	16.35	16.00
Average price	16.36	16.41
Average weight, lbs.	215	210

August Cattle, Hog Costs To Packers Above Last Year

Packers operating under federal inspection in Aug. bought cattle, sheep and hogs at prices higher than a year earlier, while calves cost less.

Average cost of cattle in Aug. at \$17.68 was 5 per cent more than in 1955, calves at \$15.90 cost 4 per cent less than in 1955, hogs at \$16.34 had 104 per cent of the 1955 value and sheep and lambs averaging \$18.78 cost 6 per cent more than in Aug. a year before.

The 1,773,867 cattle, 690,769 calves, 4,559,479 hogs and 1,268,476 sheep and lambs slaughtered in Aug. had dressed yields of:

	Aug., 1956 1,000 lbs.	Aug., 1955 1,000 lbs.
Beef	930,802	945,963
Veal	95,193	86,909
Pork (carcass wt.)	801,478	800,705
Lamb and mutton	55,246	54,343
Totals	1,882,719	1,887,039
Pork excl. lard	596,204	605,362
Lard production	150,261	149,419
Rendered pork fat	8,372	8,592

Average live weights in Aug. were:

	Aug., 1956 1,000 lbs.	Aug., 1955 1,000 lbs.
All cattle	957.6	959.4
Steers ¹	998.7	1,008.5
Heifers ¹	839.2	827.3
Cows ¹	948.0	952.0
Calves	249.5	243.0
Hogs	232.8	238.2
Sheep and lambs	92.2	92.9

Dressed yields per 100 lbs. live weight for the two months were:

	Aug., 1956 Per Cent	Aug., 1955 Per Cent
Cattle	55.9	55.4
Calves	55.7	58.1
Hogs ²	76.1	76.4
Sheep and lambs	48.2	47.9
Lard per 100 lbs., hog	14.6	14.7
Lard per animal (lbs.)	35.7	37.6

Average dressed weights of livestock compared as follows (lbs.):

	Aug., 1956	Aug., 1955
Cattle	526.7	528.1
Calves	138.2	135.1
Hogs	176.1	181.3
Sheep and lambs	43.8	44.1

¹Included in cattle.

²Subtract 7.0 to get packer style average.

LIVESTOCK AT 63 MARKETS

A summary of receipts and disposition of livestock at 63 public markets during Aug. 1956 and 1955, as reported by the USDA.

	Salable receipts	Total receipts	Local slaughter
August 1956 ..	1,763,789	2,182,003	1,069,007
July 1956	1,779,841	2,107,580	1,178,345
August 1955 ..	1,878,007	2,146,325	1,238,497
Jan.-Aug. 1956 ..	12,359,225	14,749,838	8,419,068
Jan.-Aug. 1955 ..	12,011,129	14,132,579	8,044,140
5-yr. av. (Aug. 1951-55)	1,648,005	1,927,933	997,161

	Salable receipts	Total receipts	Local slaughter
August 1956 ..	356,617	504,349	259,010
July 1956	318,402	435,441	245,067
August 1955 ..	344,961	449,375	256,648
Jan.-Aug. 1956 ..	2,292,505	3,030,157	1,778,298
Jan.-Aug. 1955 ..	2,348,888	3,044,114	1,706,908
5-yr. av. (Aug. 1951-55)	364,641	481,124	252,694

	Salable receipts	Total receipts	Local slaughter
August 1956 ..	1,813,826	2,499,232	1,721,233
July 1956	1,804,370	2,484,671	1,668,743
August 1955 ..	1,861,820	2,519,371	1,745,411
Jan.-Aug. 1956 ..	16,849,984	20,580,280	16,713,682
Jan.-Aug. 1955 ..	14,601,239	20,114,936	13,979,098
5-yr. av. (Aug. 1951-55)	1,690,164	2,320,986	1,582,493

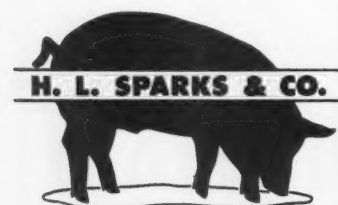
	Salable receipts	Total receipts	Local slaughter
August 1956 ..	785,008	1,403,212	644,797
July 1956	708,385	1,183,590	611,411
August 1955 ..	835,818	1,288,492	619,933
Jan.-Aug. 1956 ..	4,983,506	9,177,682	4,870,476
Jan.-Aug. 1955 ..	5,462,786	9,519,477	4,892,457
5-yr. av. (Aug. 1951-55)	858,922	1,385,614	579,572

ASPC Votes To Reorganize

In its reorganization plan approved during the recent annual meeting, and which becomes effective March 1, 1957, the American Sheep Producers Council will have 137 delegates, including 15 at large, and 40 directors, including 10 directors at large. This compares to the present number of 54 delegates and 16 directors.

LIVESTOCK CARLOADINGS

A total of 13,355 railroad cars was loaded with livestock in the week ended September 29, the Association of American Railroads has reported. This was 894 cars more than in the same week a year ago.



H. L. SPARKS & CO.

LIVESTOCK BUYERS

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MID-WEST ORDER BUYERS

Located in the heart of the Corn Belt where they raise the Meat Type Hog.

Have you tried:

KENNETT-MURRAY

Livestock Buying Service?



PACKERS' PURCHASES

Purchases of livestock by packers at principal centers for the week ended Saturday, October 6, 1956, as reported to The National Provisioner:

CHICAGO

Armour, 12,142 hogs; Shippers, 13,352 hogs; and Others, 21,458 hogs.
Totals: 22,614 cattle, 672 calves, 46,952 hogs, and 6,201 sheep.

KANSAS CITY

	Cattle	Calves	Hogs	Sheep
Armour..	4,493	1,045	3,861	2,543
Swift ..	4,119	1,834	4,179	3,348
Wilson ..	1,470	...	3,932	...
Butchers	8,557	260	633	...
Others ..	1,866	...	2,360	1,058
Totals..	20,505	3,139	14,905	6,949

OMAHA

	Cattle	Calves	Hogs	Sheep
Armour ..	6,320	7,908	1,996	...
Cudahy ..	3,451	7,531	1,645	...
Swift ..	4,322	5,251	1,950	...
Wilson ..	2,603	5,992	1,779	...
Am. Stores	804	...	...	...
Cornhusker	1,441	...	...	...
O'Neill ..	517	...	...	...
Neb. Beef ..	645	...	...	...
Gr. Omaha	756	...	...	...
Rothchild ..	1,004	...	...	...
Roth ..	963	...	...	...
Klingan ..	1,335	...	...	...
Omaha ..	684	...	...	...
Others ..	514	9,243	...	...
Totals ..	25,390	35,925	7,370	...

E. ST. LOUIS

	Cattle	Calves	Hogs	Sheep
Armour..	2,735	1,378	10,856	2,211
Swift ..	4,819	2,168	15,217	2,854
Hunter ..	1,019	...	7,260	...
Hell ..	...	...	1,696	...
Key ..	...	...	10,815	...
Totals ..	8,573	3,546	45,844	5,065

ST. JOSEPH

	Cattle	Calves	Hogs	Sheep
Swift ..	3,839	1,004	13,113	2,734
Armour..	3,790	362	6,004	2,408
Others ..	5,425	52	3,397	195
Totals..	13,054	1,418	22,514	5,337

*Do not include 120 cattle, 73 calves, 7,062 hogs and 13,748 sheep direct to packers.

SIoux CITY

	Cattle	Calves	Hogs	Sheep
Armour..	2,766	30	6,712	2,950
S.C. Dr.	...	...	...	...
Beef ..	3,247	...	...	...
Swift ..	3,533	...	4,139	1,392
Butchers	892	...	21	...
Others ..	6,793	53	13,056	823
Totals..	17,231	83	23,928	5,165

WICHITA

	Cattle	Calves	Hogs	Sheep
Cudahy ..	3,709	1,063	2,907	...
Dunn ..	125	...	...	...
Sundowner	125	...	...	...
Dold ..	87	...	1,221	...
Excel ..	537	...	...	...
Kansas ..	791	...	...	...
Armour..	102	...	...	341
Swift ..	...	...	...	352
Others ..	2,633	...	161	1,227
Totals ..	7,723	1,063	4,289	1,920

OKLAHOMA CITY

	Cattle	Calves	Hogs	Sheep
Armour..	2,800	453	1,018	400
Wilson ..	3,316	771	1,535	576
Others ..	4,564	1,266	1,882	5,293
Totals..	10,680	2,520	4,435	6,569

*Do not include 2,095 cattle, 630 calves, 9,025 hogs and 3,381 sheep direct to packers.

LOS ANGELES

	Cattle	Calves	Hogs	Sheep
Armour..	303	40	242	...
Swift ..	290	...	...	...
Wilson ..	290	169	...	...
Atlas ..	741	...	...	...
Com'l ..	656	...	...	...
Ideal ..	617	...	...	...
United ..	509	2	371	...
Survall ..	473	...	...	...
Gr. West	481	...	...	...
Century	389	...	...	...
Others ..	3,307	452	571	...
Totals ..	8,006	709	1,184	...

DENVER

	Cattle	Calves	Hogs	Sheep
Armour..	1,798	70	...	10,946
Swift ..	1,167	128	2,594	6,108
Cudahy ..	1,008	137	4,206	363
Wilson ..	1,514	...	...	6,308
Others ..	7,354	400	3,081	634
Totals ..	12,841	735	9,881	24,359

CINCINNATI

	Cattle	Calves	Hogs	Sheep
Gall ..	...	...	...	425
Schlachter	336	63	...	...
Others ..	4,898	1,027	14,473	1,810
Totals ..	5,234	1,090	14,473	2,235

ST. PAUL

	Cattle	Calves	Hogs	Sheep
Armour..	5,578	4,538	21,597	3,802
Bartusch ..	1,480	...	...	...
Riffin ..	1,058	26	...	...
Superior ..	1,562	...	...	...
Swift ..	5,892	3,507	20,715	4,338
Others ..	3,212	4,429	11,418	2,100
Totals ..	18,802	12,590	53,730	10,240

FORT WORTH

	Cattle	Calves	Hogs	Sheep
Armour..	1,792	1,768	2,539	3,012
Swift ..	3,934	3,212	1,012	5,415
Morrell ..	1,225	40	...	...
City ..	87	2	43	...
Rosenthal	251	20	...	286
Totals ..	7,889	5,042	3,594	8,713

TOTAL PACKER PURCHASES

	Week ended	Prev. week	Same week Oct. 6 week
Cattle ..	178,542	173,534	167,807
Calves ..	28,714	26,319	313,940
Hogs ..	90,123	50,180	74,412

CORN BELT DIRECT TRADING

Des Moines, Oct. 10—Prices at the ten concentration yards in Iowa and Minnesota were quoted by the USDA as follows:

	Barrows, gilts, U.S. No. 1-3:
120-180 lbs.	\$12.25@14.65
180-240 lbs.	14.25@16.00
240-270 lbs.	15.00@16.00
270-330 lbs.	14.50@15.75
Sows, U.S. No. 1-3:	
270-330 lbs.	14.75@15.65
330-400 lbs.	14.25@15.15
400-550 lbs.	12.75@14.40

Corn belt hog receipts were reported by the U. S. Department of Agriculture as follows:

	This week	Last week	Last year
Oct. 4 ..	63,500	65,000	60,000
Oct. 5 ..	63,000	54,000	65,000
Oct. 6 ..	46,000	39,000	43,000
Oct. 8 ..	72,000	70,500	83,500
Oct. 9 ..	55,000	63,500	70,000
Oct. 10 ..	65,000	56,000	85,500

LIVESTOCK PRICES AT INDIANAPOLIS

Livestock prices at Indianapolis on Wednesday, Oct. 10 were as follows:

	Cattle:	Cwt.
Steers, choice	\$23.50@26.50	
Steers, good	18.00@23.00	
Heifers, gd. & ch.	17.50@23.00	
Cows, util. & com'l.	9.00@12.50	
Cows, can. & cut.	6.00@9.50	
Bulls, util. & com'l.	12.00@14.63	
Bulls, cutters	11.50@12.00	
VEALERS:		
Choice & prime	22.00@23.00	
Good & choice	19.50@22.00	
Calves, gd. & ch.	14.50@17.00	
HOGS:		
U.S. 1-3, 120/160	13.00@14.50	
U.S. 1-3, 160/180	14.50@16.00	
U.S. 1-3, 180/200	16.00@16.35	
U.S. 1-3, 200/220	16.10@16.50	
U.S. 1-3, 220/240	16.00@16.50	
U.S. 1-3, 240/270	16.00@16.35	
U.S. 1-3, 270/300	15.75@16.00	
Sows, U.S. No. 1-3, 180/360	15.00@15.50	
LAMBS:		
Choice & prime	19.50@20.50	
Good & choice	18.00@19.50	

WEEKLY INSPECTED SLAUGHTER

Slaughter of livestock at major centers during the week ended Oct. 6, 1956 (totals compared) was reported by the U. S. Department of Agriculture as follows:

	Cattle	Calves	Hogs	Sheep & Lambs
Boston, New York City Area ¹	12,692	13,416	55,354	51,551
Baltimore, Philadelphia	8,874	1,364	31,849	3,190
Cin., Cleve., Detroit, Indpls.	20,062	9,858	104,706	15,754
Chicago Area	25,325	8,472	63,571	8,891
St. Paul-Wis. Areas ²	34,859	34,130	99,164	14,378
St. Louis Area ³	17,583	7,738	87,270	9,923
Sioux City-So. Dak. Area	18,517	...	63,190	18,483
Omaha Area	33,005	1,294	80,239	15,105
Kansas City	20,005	5,661	33,620	9,906
Iowa-So. Minnesota ⁴	27,366	16,328	306,068	34,731
Louisville, Evansville, Nashville, Memphis	14,273	12,609	42,994	Available
Georgia-Alabama Area ⁵	7,608	6,278	30,009	"
St. Joseph, Wichita, Okla. City ..	24,825	7,630	51,311	17,606
Ft. Worth, Dallas, San Antonio ..	26,778	12,670	16,015	20,400
Denver, Ogden, Salt Lake City ..	17,934	1,533	14,734	30,687
Los Angeles, San Fran. Areas ⁶ ..	28,026	3,781	32,306	28,136
Portland, Seattle, Spokane	9,016	1,790	15,015	6,474
GRAND TOTALS	346,668	444,552	1,127,505	285,115
Totals previous week	309,528	115,806	1,065,386	247,335
Totals same week 1955	320,774	123,508	1,149,362	263,449

¹Includes Brooklyn, Newark and Jersey City. ²Includes St. Paul, St. Paul, Newport, Minn., and Madison, Milwaukee, Green Bay, Wis. ³Includes St. Louis National Stockyards, E. St. Louis, Ill., and St. Louis, Mo. ⁴Includes Cedar Rapids, Des Moines, Fort Dodge, Mason City, Marshalltown, Ottumwa, Storm Lake, Waterloo, Sioux City, Iowa, and Albert Lee, Austin, Minn. ⁵Includes Birmingham, Dothan, Montgomery, Ala., and Albany, Atlanta, Columbus, Moultrie, Thomasville, Tifton, Ga. ⁶Includes Los Angeles, Vernon, San Francisco, San Jose, Vallejo, Calif.

LIVESTOCK PRICES AT 11 CANADIAN MARKETS

Average prices per cwt. paid for specific grades of steers, calves, hogs and lambs at 11 leading markets in Canada during the week ended September 29 compared with the same time 1955, was reported to the National Provisioner by the Canadian Department of Agriculture as follows:

STOCK-YARDS	GOOD STEERS		VEAL CALVES		HOGS*		LAMBS	
	Up to 1000 lbs.	1000 lbs. and over	Good and Choice	Choice	Grade B*	Dressed	Handyweights	Good
Toronto ..	\$20.97	\$20.00	\$23.44	\$23.44	\$23.87	\$25.00	\$21.54	\$19.00
Montreal ..	18.50	20.00	22.65	24.00	28.25	25.05	17.40	17.50
Winnipeg ..	19.74	18.62	21.33	21.49	27.41	22.75	18.65	16.48
Calgary ..	19.54	18.30	16.99	16.64	27.20	21.67	17.06	15.90
Edmonton ..	19.50	17.25	17.50	18.50	28.35	21.75	18.00	17.00
Lethbridge ..	19.00	18.50	18.06	18.06	26.80	21.25	16.80	16.10
Pr. Albert ..	19.00	17.37	16.50	16.25	25.25	21.00	16.20	14.75
Moose Jaw ..	19.50	17.50	16.25	15.85	24.90	21.25	...	16.25
Saskatoon ..	19.75	18.20	17.75	18.00	25.00	21.00	16.50	15.75
Regina ..	19.15	16.80	17.50	17.10	25.25	20.60	15.50	16.00
Vancouver ..	19.40	18.50	19.50	16.75	...	23.65	19.50	19.50

*Canadian Government quality premium not included.

SOUTHERN RECEIPTS

Receipts of livestock at six southern packing plant stockyards located in Albany, Moultrie, Thomasville, Tifton, Georgia; Dothan, Alabama, and Jacksonville, Florida during week ended October 5:

SLAUGHTER REPORTS

Special reports to THE NATIONAL PROVISIONER, showing the number of livestock slaughtered at 13 centers for the week ended Oct. 6, 1936, compared:

CATTLE			
	Week ended	Prev. Week	Cor.
	Oct. 6	Week 1935	
Chicago†	22,614	20,089	24,653
Kan. City†	23,644	20,656	16,178
Omaha†	20,938	21,226	20,177
St. Louis†	12,119	5,550	9,875
St. Joseph†	12,778	14,123	10,698
Sioux City†	11,249	10,233	11,481
Wichita†	7,724	6,910	3,974
New York & Jer. City†	12,092	9,446	12,951
Okla. City†	15,915	17,147	9,784
Cincinnati†	4,741	4,311	4,690
Denver†	14,030	17,921	17,490
St. Paul†	15,590	13,012	16,491
Milwaukee†	3,805	3,129	4,636
Totals	182,939	172,763	169,048

HOGS			
Chicago†	33,600	30,558	37,033
Kan. City†	14,965	15,917	12,006
Omaha†	50,533	61,990	61,301
E. St. Louis†	43,844	36,337	38,125
St. Joseph†	26,181	26,784	30,087
Sioux City†	17,833	14,212	25,512
Wichita†	10,915	12,615	12,172
New York & Jer. City†	55,354	56,971	47,805
Okla. City†	13,420	16,987	11,849
Cincinnati†	12,845	12,552	17,267
Denver†	10,771	7,366	8,492
St. Paul†	42,312	25,578	60,339
Milwaukee†	4,565	1,150	6,623
Totals	339,068	318,907	409,211

SHEEP			
Chicago†	6,201	1,550	4,598
Kan. City†	6,949	7,376	4,661
Omaha†	10,705	11,135	10,976
E. St. Louis†	5,065	2,460	3,201
St. Joseph†	18,890	15,336	9,951
Sioux City†	4,586	4,845	3,218
Wichita†	693	1,355	671
New York & Jer. City†	51,551	32,966	54,358
Okla. City†	9,950	10,242	2,366
Cincinnati†	1,527	...	381
Denver†	23,171	22,961	27,684
St. Paul†	8,140	6,383	8,108
Milwaukee†	1,793	755	1,382
Totals	149,221	117,364	131,555

*Cattle and calves.
†Federally inspected slaughter, including direct.
‡Stockyards sales for local slaughter.
§Stockyards receipts for local slaughter, including direct.

CANADIAN KILL

Inspected slaughter of livestock in Canada for week ended September 29:

CATTLE			
	Week ended	Same week	
	Sept. 29	1935	
Western Canada	20,161	17,886	
Eastern Canada	19,711	18,397	
Totals	39,872	36,283	
HOGS			
Western Canada	33,193	47,279	
Eastern Canada	56,832	67,968	
Totals	90,025	115,247	
SHEEP			
Western Canada	5,068	6,923	
Eastern Canada	14,978	17,797	
Totals	20,046	24,720	

NEW YORK RECEIPTS

Receipts of livestock at Jersey City and 41st st., New York Market for week ended Oct. 6:

Cattle Calves Hogs* Sheep			
Salable	236	47	...
Total (incl. directs)	3,569	8,445	22,642
Prev. week:			
Salable	237	186	1,786
Total (incl. directs)	3,459	4,559	28,128

*Including hogs at 31st St.

CHICAGO LIVESTOCK

Supplies of livestock at the Chicago Union Stockyards for current and comparative periods:

RECEIPTS				
	Cattle	Calves	Hogs	Sheep
Oct. 4	3,707	541	10,963	1,500
Oct. 5	603	119	7,576	875
Oct. 6	616	273	5,736	40
Oct. 8, 16, 140	652	13,119	3,307	
Oct. 9	5,100	300	17,300	3,100
Oct. 10	16,000	300	10,000	2,400
*Week so	37,840	1,232	40,619	8,807
Wk. ago	44,719	1,357	45,050	7,173
Yr. ago	46,363	1,154	42,384	6,637
2 years ago	42,426	1,130	39,264	5,292

*Including 400 cattle, 10,000 hogs and 1,000 sheep direct to packers.

SHIPMENTS				
	Cattle	Calves	Hogs	Sheep
Oct. 4	2,960	40	2,651	678
Oct. 5	2,296	31	1,953	467
Oct. 6	1,328	...	132	263
Oct. 8	6,173	20	3,402	540
Oct. 9	3,900	...	5,000	500
Oct. 10	7,600	...	2,000	400
*Week so	16,175	20	10,402	1,440
Wk. ago	20,286	137	8,616	1,113
Yr. ago	19,363	52	10,705	1,670
2 years ago	14,191	167	3,150	413

OCTOBER RECEIPTS				
	1936	1935		
Cattle	87,487	78,533		
Calves	3,542	2,689		
Hogs	110,244	101,116		
Sheep	18,395	15,661		

OCTOBER SHIPMENTS

	1936	1935
Cattle	43,145	36,281
Hogs	23,754	26,972
Sheep	3,961	3,014

CHICAGO HOG PURCHASES

Supplies of hogs purchased at Chicago, week ended Wednesday, October 10:

	Week ended	Week ended
	Oct. 10	Oct. 3
Packers purch.	30,410	35,718
Shippers' purch.	12,514	15,221
Totals	42,924	50,939

CALIFORNIA STATE INSPECTED KILL

State inspected slaughter of livestock in California during Aug., as reported to The National Provisioner:

	No.
Cattle	40,854
Calves	27,003
Sheep	34,039
Hogs	21,404

Meat and lard production for August:

	Lbs.
Sausage	5,631,816
Pork and beef	7,902,161
Lard and substitutes	777,331
Total	14,311,308

As of Aug. 31, California had 113 meat inspectors. Plants under state inspection totaled 343, and plants under state approved municipal inspection totaled 94.

LIVESTOCK RECEIPTS

Receipts at 20 markets for the week ended Friday, Oct. 5, with comparisons:

	Cattle	Hogs	Sheep
Week to date	375,000	466,000	273,000
Previous week	371,000	479,000	260,000
Same wk. 1935	335,000	513,000	248,000
1936 to date	12,021,000	18,620,000	8,060,000
1935 to date	11,464,000	16,417,000	6,705,000

PACIFIC COAST LIVESTOCK

Receipts at leading Pacific Coast markets, week ended Oct. 4:

	Cattle	Calves	Hogs	Sheep
Los Ang.	9,400	975	1,225	250
N. P'tland	4,150	875	2,200	3,900
San Fran.	600	200	1,000	2,200

LIVESTOCK PRICES AT LEADING MARKETS

Livestock prices at five western markets on Tuesday, Oct. 9, were reported by the Agricultural Marketing Service, Livestock Division as follows:

	St. L. N.S. Yds.	Chicago	Kansas City	Omaha	St. Paul
HOGS (Includes Bulk of Sales):					
BARROWS & GILTS:					
U.S. No. 1-3:					
120-140 lbs.	\$13.25-14.25	None qtd.	None qtd.	None qtd.	None qtd.
140-160 lbs.	14.25-15.25	None qtd.	None qtd.	None qtd.	\$14.00-15.25
160-180 lbs.	15.25-16.00	\$14.50-15.50	\$15.00-15.75	\$14.75-16.00	15.00-15.75
180-200 lbs.	15.75-16.25	15.50-16.50	15.75-16.25	15.75-16.50	15.75-16.75
200-220 lbs.	16.00-16.60	15.85-16.50	16.00-16.25	16.00-16.75	16.00-16.75
220-240 lbs.	16.00-16.50	16.00-16.50	16.00-16.25	16.00-16.75	16.00-16.75
240-270 lbs.	16.00-16.25	16.15-16.25	16.00-16.25	16.00-16.75	16.00-16.75
270-300 lbs.	15.75-16.25	15.85-16.25	15.50-16.00	15.50-16.25	15.75-16.50
300-330 lbs.	None qtd.	None qtd.	None qtd.	None qtd.	None qtd.
330-360 lbs.	None qtd.	None qtd.	None qtd.	None qtd.	None qtd.
Medium:					
160-220 lbs.	14.75-15.75	14.00-15.50	14.50-15.25	14.25-15.75	14.50-15.75

SOWS:					
U.S. No. 1-3:					
180-270 lbs.	12.25 only	None qtd.	None qtd.	None qtd.	15.75-16.00
270-300 lbs.	15.25 only	15.75 only	15.75-16.00	15.75-16.00	15.75-16.00
300-330 lbs.	15.25 only	15.50-15.75	15.75-16.00	15.00-15.75	15.50-16.00
330-360 lbs.	15.00-15.25	15.25-15.75	15.50-15.75	15.00-15.75	15.25-16.00
360-400 lbs.	15.75-15.00	15.00-15.50	15.00-15.50	15.00-15.75	15.00-15.25
400-450 lbs.	14.50-14.75	14.75-15.00	14.75-15.25	15.00-15.75	14.75-15.00
450-550 lbs.	14.00-14.50	14.00-14.50	14.50-15.00	14.75-15.00	14.25-14.75
Boars & Stags,					
all wts.	10.00-13.00	None qtd.	None qtd.	None qtd.	9.50-10.50

SLAUGHTER CATTLE & CALVES:

STEERS:					
Prime:					
700-900 lbs.	None qtd.	None qtd.	None qtd.	None qtd.	None qtd.
900-1100 lbs.	None qtd.	27.50-33.25	27.50-30.00	28.00-31.50	None qtd.
1100-1300 lbs.	None qtd.	28.00-33.50	28.50-31.00	29.50-32.00	None qtd.
1300-1500 lbs.	None qtd.	28.00-33.50	28.50-31.00	30.00-32.00	None qtd.
Choice:					
700-900 lbs.	24.50-28.50	23.00-27.50	23.00-28.00	22.00-28.00	None qtd.
900-1100 lbs.	25.00-28.50	23.50-29.50	23.00-28.50	22.25-29.50	23.00-28.50
1100-1300 lbs.	25.00-28.50	24.00-30.00	23.50-28.50	23.25-30.00	23.50-28.50
1300-1500 lbs.	25.00-28.50	24.00-30.00	23.50-28.50	23.25-30.00	23.50-28.50
Good:					
700-900 lbs.	20.00-25.00	18.50-23.00	17.50-23.00	18.00-22.50	18.00-22.50
900-1100 lbs.	20.50-25.00	19.00-24.00	18.00-23.50	18.50-22.50	18.50-22.50
1100-1300 lbs.	20.50-25.00	19.50-24.50	18.00-23.50	18.50-22.50	18.50-22.50
Standard,					
all wts.	14.50-21.00	15.50-18.50	13.50-18.00	13.50-17.50	14.00-17.00
Utility,					
all wts.	13.00-14.50	14.00-15.50	12.00-13.50	12.00-13.50	12.00-14.00

HEIFERS:					
Prime:					
800-900 lbs.	None qtd.	None qtd.	None qtd.	None qtd.	None qtd.
900-1000 lbs.	None qtd.	None qtd.	None qtd.	None qtd.	None qtd.
Choice:					
600-800 lbs.	None qtd.	21.50-25.00	22.00-24.75	22.50-24.75	20.00-25.00
800-1000 lbs.	None qtd.	22.50-25.75	22.50-24.75	23.00-25.00	24.00-25.00
Good:					
500-700 lbs.	None qtd.	18.00-21.00	16.00-21.50	18.00-20.50	17.00-20.00
700-900 lbs.	None qtd.	18.50-22.00	16.50-22.00	18.50-21.00	18.00-20.50
Standard,					
Utility					
all wts.	None qtd.	14.00-16.00	13.00-16.50	13.50-17.50	14.00-17.00
COWS:					
Commercial,					
all wts.	11.50-12.50	12.00-14.00	11.75-13.00	11.00-12.00	11.50-12.00
Utility,					
all wts.	10.00-11.50	9.50-12.00	9.00-11.25	9.25-11.00	9.00-11.00
Can. & cut.,					
all wts.	6.50-10.00	8.00-10.50	7.00-9.00	8.00-9.00	7.00-9.00

BULLS (Yr. Excl.), All Weights:					
Good	11.50-12.00	None qtd.	None qtd.	None qtd.	12.0

SETS

uesday,
rketings

St. Paul

None qtd.
4.00-15.25
5.00-15.75
5.75-16.75
6.00-16.75
6.00-16.75
6.00-16.75
5.75-16.50
None qtd.
None qtd.

4.50-15.75

5.75-16.00
5.75-16.00
5.50-16.00
5.25-16.00
5.00-15.25
4.75-15.00
4.25-14.75

9.50-10.50

None qtd.
None qtd.
None qtd.
None qtd.

None qtd.
23.00-26.50
3.50-26.50
23.50-26.50

8.00-22.00
8.50-22.50
8.50-22.50

14.00-17.00

2.00-14.00

None qtd.
None qtd.

23.00-25.00
24.00-25.00

17.00-20.00
18.00-20.50

14.00-17.00

11.50-12.00

9.00-11.00

7.00- 9.00

12.00-12.50
12.50-13.00
12.50-13.50
1.50-12.50

22.00-24.00
12.00-16.00

6.00-18.00
1.00-14.00

18.50-20.00
17.50-18.50

None qtd.
None qtd.

4.50- 5.50
2.50- 4.50

3, 1956